



## GRADUATE COURSE DESCRIPTIONS

Some graduate programs allow students to complete 300-level courses for graduate credit. Please see the [undergraduate course descriptions](#) for these course descriptions.

### ADMINISTRATION AND SUPERVISION

#### **A&S 465 ADMINISTRATIVE PLANNING**

#### **A&S 469 EDUCATIONAL FINANCE**

#### **A&S 491 ADMINISTRATIVE THEORY AND BEHAVIOR**

This course concerns theoretical concepts and empirical research relating to administrative behavior in organizations with special reference to educational organizations. Concepts are examined within the typical decisional framework of supervisors, chief school business officers, principals, and superintendents, and similar positions in the helping professions. Assignments are individualized.

#### **A&S 492 THE PRINCIPALSHIP**

An intensive study of factors involved in the administration and supervision of a school. Topics considered include the administration and supervision of student personnel, faculty, the instructional program, financial and physical resources, community relations and other basic needs in administering and supervising schools.

#### **A&S 494 SCHOOL FINANCE**

Major consideration will be given to problems relating to the preparing of a school budget, procuring revenue, financial accounting, capital outlays, insurance on property, taking of inventory, and the social and political implications of how schools are financed.

#### **A&S 495 SCHOOL LAW**

Authority, powers and liability of school personnel; rights and status of students; character of districts and school board control of curriculum, school property, finances. Special emphasis on recent state and federal court decisions as they affect Illinois and neighboring states.

#### **A&S 496 HOME, SCHOOL, COMMUNITY RELATIONS**

This course will examine the formation of educational partnerships within the home, school, community for the general purpose of school improvement and more specifically to affect the improvement of student achievement within the context of school reform. Students will have the opportunity to critically examine their individual and collective roles as administrators and educators in the school reform movement and be reflective regarding actions taken and planned. Among the issues to be discussed and integrated into the administrative role are how groups form, school leadership, group relations, power relationships, communications/public relations, collaborations, shared decision

making, needs identification, resource identification and individual and collective action.

**A&S 498 PRINCIPLES AND PRACTICES OF SUPERVISION**

Supervision viewed from a human resources perspective, dealing with motivation, responsibility and successes at work as a means to intrinsic satisfaction.

**A&S 499 CLINICAL SUPERVISION**

Develops competencies in a system of person-to-person supervision that will give supervisors reasonable hope of accomplishing significant improvements in the personnel performance.

**A&S 586 ADMINISTRATIVE USES OF TECHNOLOGY IN EDUCATIONAL SETTINGS**

Students will develop and refine skills in word processing, record keeping, presentation software, budget management and educational management. They will also discuss the role of technology for classroom instruction, the expansion of a school's research capacity through technology and develop a framework for the evaluation of these uses of technology. (Open to both Masters and Doctoral students)

**A&S 590 ORGANIZATIONAL DEVELOPMENT**

A development approach used in combining theory, research, and applications for improving interpersonal effectiveness and to develop problem-solving capacity of the organization. The course is about change theory, people in organizations and the achievement of individual and organizational goals.

**A&S 591 RESEARCH SEMINAR IN EDUCATIONAL LEADERSHIP**

Research seminar in educational leadership

**A&S 593 PRACTICUM IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): CONSENT OF FACULTY ADVISOR)**

The practicum provides opportunities for advanced students in administration and supervision to participate in and complete a research project in selected systems on a full-time or part-time basis. The experiences are intended to provide, under professional direction and supervision for (1) study for major factions, policies, and problems for administration and supervision, and (2) intensive study of certain critical administrative and supervisory practices. PREREQUISITE(S): Advanced standing in administration and supervision and permission of faculty advisor.

**A&S 594 INTERNSHIP IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): CONSENT OF FACULTY ADVISOR)**

The internship provides supervised experiences in selected organizations on a full-time or part-time basis. The student intern is cooperatively assigned to an organization under the immediate supervision of organizational personnel. The experiences provided are designed to enrich the student's theoretical background with practical opportunities of participating in (1) overall contact with personnel and with the major functions and problems of certain critical administrative and/or supervisory activities, and (2) a detailed study and analysis of a particular administrative and/or supervisory function or activity. PREREQUISITE(S): Advanced standing in administration and supervision and permission of faculty advisor.

**A&S 595 WORKSHOP IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): CONSENT OF INSTRUCTOR)**

Topics of particular interest and concern to administrators and supervisors will be presented in a high-involvement seminar format. Primary reliance will be on written materials; however, audio-visual and role-playing mechanisms may also be used.

Participation in workshops is limited to advance students of administration and supervison. PREREQUISITE(S): Consent of instructor.

**A&S 596 HUMAN RESOURCE MANAGEMENT**

Theory, practice and relevant research in modern personnel administration. Recruitment, staff-development, interviewing, collective bargaining, conflict resolution and employee evaluation are emphasized. Human resource administration, induction programs, and in-service opportunities are touched upon.

**A&S 597 POLITICS OF EDUCATION**

Policy development in education as a political process; community power, state and national politics in educational decision-making and the role of leadership and pressure groups in the shaping of educational policy at local, state and national levels.

**A&S 598 INDEP STUDY IN EDU LEADERSHIP (PREREQUISITE(S): PERMISSION OF INSTRUCTOR, CHAIR & ASSOC DEAN)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

**A&S 599 THESIS SEMINAR IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): SCG 410 & APPROVED THESIS PROPOSAL)**

A student writing a thesis registers for this course for four quarter hours of credit. When the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

**A&S 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter.

**A&S 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching databases. In other words, student will need to be able to ask and answer such question as "What is know about? What are major issues and themes?"

**A&S 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "how theories work."

**A&S 640 LEGAL ASPECTS OF SPECIAL EDUCATION FOR CLASSROOM TEACHERS**

Legal aspects of special education for classroom teachers

**A&S 645 THE ADMINISTRATION AND OPERATION OF SPECIAL EDUCATION**

The administration and operation of special education

**A&S 801 LEADERSHIP PRACTICES FOR URBAN ADMINISTRATORS**

This course examines existing administrative practices and analyzes their effects upon urban populations. In particular, it will consider the role of conflict, including its creative as well as its destructive potential, in inclusive decision making processes. A blend of experiential and theoretical approaches will be used to examine the urban leadership role in the restructuring of schools. This course will provide the necessary skills for school administrators to engage in curriculum assessment and development, site research, staff development, mentoring, and organizational change in the context of a multicultural educational environment through the consensus generated by community building.

**A&S 803 SCHOOL PROGRAMS, PLANT AND HUMAN RESOURCES**

The development of school programs, based on current research and school laws and regulations, will be explored. The focus will be on the core curriculum, Education and Secondary Education Act (ESEA), State Chapter I, Bilingual and Special Education mandates and opportunities as well as on other discretionary school programs. Responsibilities in relation to plant operation and management, staffing formulas for all staff, developing job descriptions, recruitment, and staff selection and evaluation are included.

**A&S 811 ASSESSMENT AND ACCOUNTABILITY**

Students will focus on defining responsibilities and selecting those processes and instruments, qualitative as well as quantitative, that best assess staff performance and provide direction for elevating student achievement.

**A&S 823 COMMUNITY AND CONSENSUS BUILDING FOR SCHOOL IMPROVEMENT**

Students will examine inclusive models for consensus building among school/community members that engage membership in processes and decision making through data collection, self-analysis, mission/vision development, goal setting and program planning, implementation and evaluation that leads to school and community improvement. Attention will be given to establishing linkages with local municipal, state, and federal resources, business and industrial resources, community services, and other community resources.

**A&S 833 DECISION MAKING AND PROBLEM SOLVING: EFFECTIVE PRACTICES FOR SCHOOLS**

Students will examine stages and models of decision making and their appropriate use in an educational context that lead to effective problem solving through collaboration, group dialogue and negotiations, mediation, and other intervention strategies for resolving diverse needs and conflicts. Students will work collaboratively to develop processes and strategies that can be used to resolve conflicts and reduce tensions, through group processes and communications techniques for improving the quality of decision making and professional relationships with school staff, central office administrators and school board members.

**A&S 843 THE POLITICS OF SCHOOLING**

Students will engage in analyzing educational policy and the political processes related to problem identification, problem solving, decision making, the underlying political processes and their impact on the school/community, students, parents, educators, staff, and community members. The role of such entities as, school boards, unions, professional associations, businesses, university preparation programs, book and test publishers, and local, state, and national policy makers in the education political arena

will be analyzed. Attention will be given to the means by which support for change is developed with special emphasis on collaborative dialogue and teamwork for political action. Strategies for coalition building, and individual and collective action will be informed by the use of theory from applied behavioral science and political science.

**A&S 853 CURRENT TRENDS IN BUDGETING, FINANCE AND SCHOOL LAW**

Current Trends in Budgeting, Finance and School Law. Financial decisions undergird instructional programs and administrative decision making. Relating these to available money and funding, setting priorities and maximizing the impact on student achievement will be studied. The duties and liabilities of school administrators as determined by federal rules and regulations, state school codes, the politics of boards of education, and case law will be examined.

**A&S 859 INDEPENDENT DISSERTATION RESEARCH: EDUCATIONAL LEADERSHIP**

**A&S 863 SCHOOL LAW FOR SUPERINTENDENTS**

**A&S 873 CURRENT TRENDS IN BUDGETING AND FINANCE**

This course focuses on the priorities of school funding. Financial decisions undergird instructional programs and administrative decision making. Relating these to available money and funding, setting priorities and maximizing the impact on student achievement will be studied.

**A&S 883 SCHOOL LAW**

This course examines the current legal requirements of schools and how changes impact schools. Administrators make decisions that respond to many realities, including the rules and regulations at the local, state, and national levels. The administrator works within a constantly changing system. The duties and liabilities of school administrators as determined by federal rules and regulations, state school codes, the policies of boards of education, and case law will be examined.

**A&S 899 SUPERINTENDENT INTERNSHIP (PREREQUISITE(S): ADVANCED STANDING)**

This course is an elective for those seeking the Illinois State Board of Education (ISBE) Superintendent Endorsement. It is to be taken in addition to all the required courses in the core, the concentration and the research sequence. The experiences provided are designed to enrich the students' theoretical background with practical opportunities to participate in major functions and critical duties at the district, regional and/or central office level. The student will be cooperatively assigned to site (s) and be supervised by the on-site superintendent and a DePaul faculty member. PREREQUISITE(S): Advances standing in the educational leadership program and possession of an ISBE Administrative endorsement (type 75 certificate).

**ACCOUNTANCY**

**ACC 500 FINANCIAL ACCOUNTING (PREREQ: GRADUATE STANDING)**

This introduction to financial accounting provides both a theoretical foundation and an opportunity to apply accounting logic in increasingly complex situations. The accounting model and information processing cycle are developed. The content of the income statement, balance sheet, and statement of cash flows are studied in detail and analyzed. PREREQUISITE(S): Graduate Standing

**ACC 502 ADVANCED MANAGEMENT ACCOUNTING (PREREQ: ACC 542)**

Interpretation, analysis and use by management of internal accounting information. Topics include cost management, activity-based costing, inventory management (including just-in-time), cost allocation, performance measurement, analysis and control of non-manufacturing costs, budgeting and financial planning, and capital budgeting. Students are familiarized with quantitative models and approaches used in management accounting. Computers will be used for problem-solving. (This course may not be taken by M.S.A. students) PREREQUISITE(S): ACC 542.

**ACC 503 ACCOUNTING INFORMATION SYSTEMS AND AUDITING (PREREQ: ACC 500)**

Accounting systems design and the audit process, and how they interact to aid management in controlling business operations. Emphasis is placed on the functions of the auditor including planning the audit, flowcharts, accounting systems, study and evaluation of internal accounting controls in EDP environment, statistical sampling and evidence gathering and reporting. Comparisons and contrasts between internal and external auditors are discussed at appropriate points. (This course may not be taken by M.S.A. students) PREREQUISITE(S): ACC 500.

**ACC 533 CORPORATE PLANNING (PREREQ: ACC 542 OR EQUIVALENT)**

This course investigates the conceptual framework for and the development of integrated corporate planning and control in business enterprises and not-for-profit organizations. Consideration will be given to long-range strategic planning, annual budgets, product and project planning. The course also conveys an understanding of the human elements and organizational constraints that may affect the corporate planning function. Students will be exposed to the use of quantitative techniques and microcomputers as planning tools. PREREQUISITE(S): ACC 542 or equivalent.

**ACC 535 ACCOUNTING SYSTEMS (CROSS-LISTED AS ACC 610) (PREREQ: ACC 555 OR EQUIVALENT))**

Today's business person requires a fundamental knowledge of computer-based information systems and their role in accounting functions and financial decision-making. This course will enable the student to interface with accounting systems, and to participate in their design and audit. It will focus on the nature and flows of accounting information in organizations, security and internal controls and the use of information technology in accounting information systems and decision-making. PREREQUISITE(S): ACC 555 or equivalent.

**ACC 541 FINANCIAL ACCOUNTING THEORY & PRACTICE I (PREREQ: ACC 500 OR EQUIVALENT)**

Intermediate theory and preparation of financial statements; review of accounting concepts and development of accounting models; methods and problems in valuation and reporting; with emphasis on current assets and liabilities, property, plant and equipment, and intangibles, review of relevant authoritative literature. PREREQUISITE: ACC 500 or equivalent.

**ACC 542 COST AND MANAGERIAL ACCOUNTING I (PREREQ: MIS 555 AND ACC 500 OR EQUIVALENT)**

Introduction to cost and managerial concepts and techniques. Topics include cost accumulation (job, process, standard costing, and activity-based costing), cost behavior, breakeven analysis, budgeting, contribution approach to income measurement, joint and by-product costing, cost allocation methods, and their relevance for decision-making. Selected spreadsheet applications will be introduced. PREREQUISITE: MIS 555 and ACC 500 or equivalent.

**ACC 543 FINANCIAL ACCOUNTING THEORY & PRACTICE II (PREREQ: ACC 541)**

Continuation of intermediate theory and financial statement preparation with emphasis on the components of stockholder's equity; special problems such as earnings per share, accounting changes, income taxes, derivatives, and statement of cash flows; review of relevant authoritative literature and interpretation of financial statements. PREREQUISITE (S): ACC 541 This is a M.S.A. course

**ACC 544 COST AND MANAGERIAL ACCOUNTING II (PREREQ: ACC 542 OR EQUIVALENT)**

This course presents topics in cost and managerial accounting. Topics include cost management techniques, activity-based costing, budgeting, responsibility accounting, decentralization and transfer pricing, quantitative decision models, operations management and inventory management (just-in-time). Computers will be used for problem-solving. PREREQUISITE (S): ACC 542 or equivalent. NOTE: This is a M.S.A. course.

**ACC 545 ADVANCED TOPICS IN ACCOUNTING THEORY (PREREQ: ACC 543)**

This course is designed to provide comprehensive coverage of the following: consolidations, partnership accounting, foreign operations and not-for-profit accounting. Coverage of the topics emphasizes both theory and practice. Mastery of the material is obtained through problem-solving situations. PREREQUISITE (S): ACC 543. NOTE: This is a M.S.A. or M.ACC course.

**ACC 547 AUDIT AND REGULATION OF CORPORATE FINANCIAL REPORTING (PREREQ: ACC 541)**

This course covers the theory of the auditing function. Topics covered include generally accepted auditing standards; the profession's ethical and legal dimensions; audit planning; the internal control structure; audit evidence; and auditor's reports. The development of the professional judgment needed to apply generally accepted auditing standards is emphasized. PREREQUISITE: ACC 541. NOTE: This is a M.S.A. course.

**ACC 548 TAX TREATMENT OF INDIVIDUALS AND PROPERTY TRANSACTIONS (ACC 500 OR EQUIVALENT)**

This course provides detailed coverage of the federal income tax treatment of individual taxpayers. It includes coverage of inclusions, exclusions, deductions, credits, rates of taxation, special tax computations and the tax aspects of property transactions. This course is a prerequisite for students in the M.S.T. program not having the equivalent undergraduate coursework in taxation. (A student may not receive credit for this course if he or she will also receive credit for Accountancy 584.) PREREQUISITE (S): ACC 500 or equivalent. Note: This is a M.S.A. or M.ACC course.

**ACC 550 ADVANCED TOPICS IN AUDITING (CROSS-LISTED AS ACC 620) (PREREQ: ACC 547)**

This course covers the implementation of generally accepted auditing standards, to the audit of transaction cycles, auditing sampling and the audit of computer-based systems. The course also includes a review of recent statements on auditing standards. PREREQUISITE: ACC 547. NOTE: This is a M.S.A. course.

**ACC 551 TAX TREATMENT OF CORPORATIONS AND PARTNERSHIPS (PREREQ: ACC 548 OR EQUIVALENT)**

This course covers the federal income tax treatment of corporations and partnerships. It includes an exposure to estate and gift taxation and tax research. This course is a prerequisite for students in the M.S.T. program not having the equivalent undergraduate coursework in taxation. (A student may not receive credit for this

course if he or she will also receive credit for Accountancy 584.) PREREQUISITE: ACC 548 or its equivalent. NOTE: This is a M.S.A. or M.ACC course.

**ACC 552 LEGAL AND ETHICAL ENVIRONMENT OF ACCOUNTING PRACTICE (PREREQ: GRADUATE STANDING)**

This course covers the aspects of the legal environment of special concern to accounting practitioners, including: the ethical standards of auditing and tax practice; legal liability of accountants; contract law; property law, commercial paper; the laws of agency; sales laws and public regulation and disclosure laws. PREREQUISITE: Graduate standing. Note: This course is a M.S.A. course.

**ACC 555 MANAGEMENT ACCOUNTING FOR DECISION-MAKING (PREREQ: MGT 500, ACC 500 OR EQUIVALENT)**

This course addresses the financial, nonfinancial & ethical dimensions of decision-making. It provides students with a conceptual understanding of cost management and managerial accounting skills. Topics include cost behavior, cost-volume-profit analysis, cost systems, budgeting and control and decision-making. Emphasis is on the interpretation & use of accounting information rather than its creation & accumulation. PREREQUISITE(S): MGT 500, ACC 500 or equivalent.

**ACC 558 TAX RESEARCH (PREREQ: GRADUATE STANDING)**

Tax research methods are taught in the classroom. The course begins with a study of the history of the body of tax law. A 'walk through' technique is employed to give the student firsthand experience in the use of a tax research service. PREREQUISITE: Graduate standing.

**ACC 559 TOPICS IN INDIVIDUAL AND CORPORATE TAXATION (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

This course deals with a variety of topics which are important in tax practice, such as alternative minimum tax, passive losses, interest limitations, the at-risk rules, hobby losses, use of a home, net operating losses. Depreciation and capital recovery including related credits, unearned income of a minor child, uniform capitalization rules and time value of money concepts. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 560 TAXATION OF CORPORATIONS AND SHAREHOLDERS (PREREQ: ACC 566)**

Emphasis is on the federal income taxation of distributions to corporate shareholders, including nonliquidating distributions and distributions in connection with liquidations. Collapsible corporations and the tax consequences of transfers of property to a corporation are also covered. PREREQUISITE (S): ACC 566. NOTE: This is a M.S.T. course.

**ACC 561 CORPORATE REORGANIZATIONS (PREREQ(S): ACC 558 AND ACC 560)**

Federal income tax implications of transfers of stock, securities and property in connection with corporate acquisitions, combinations and separations. This course is mainly concerned with the tax consequences to corporate parties, to reorganizations and to their shareholders. Emphasis is given to determining the taxability of transactions and asserting the availability of tax attributes to successors in interest. PREREQUISITE (S): ACC 558 and ACC 560. NOTE: This is a M.S.T. course.

**ACC 562 CONSOLIDATED RETURNS (PREREQ(S): ACC 560 AND ACC 561)**

This course deals with the principles and mechanics of tax consolidations including eligibility, intercompany transactions, inventory adjustments, basis of property, net operating losses, earnings and profits and separate return limitations. .

PREREQUISITE (S): ACC 560 and ACC 561. NOTE: This is a M.S.T. course.

**ACC 563 PARTNERSHIPS ( PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

An in-depth analysis of the federal income tax rules governing partners and partnerships. This course includes study of the aggregate and entity theories, partnership distributions and liquidations, dispositions of partnership interests, transactions concerning unrealized receivables and substantially appreciated inventory items and special basis adjustments. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S. T. course.

**ACC 564 TRANSACTIONS IN PROPERTY ( PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558T)**

This course is concerned mainly with the federal income tax implications of gains and losses derived from sales and other dispositions of property. Emphasis will be given to the determination and recognition of gain or loss, character of gain or loss (capital or ordinary), basis and holding period. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 565 TAX ACCOUNTING, PERIODS, AND METHODS (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

This course deals with federal income tax planning as to determination of the proper periods for reporting income and deductions, overall methods of tax accounting and special elections available to taxpayers. Topics include the installment method, accounting method changes, accrual method, cash method, FIFO, LIFO and accounting periods. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 566 FEDERAL INCOME TAX PROCEDURES (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

A study of the procedures which must be followed when dealing with the Internal Revenue Service and possible alternative courses of action. Included are such topics as the organization of the Internal Revenue Service, filing requirements, refund claims, closing agreements, examination procedures, protests, assessment, payment and collection of tax, statute of limitations, interest and penalties. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 567 INTERNATIONAL ASPECTS OF U.S. TAXATION (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

This course covers the federal income taxation of United States persons investing or doing business outside the United States and nonresident aliens and foreign corporations having nexus with the United States. Topics covered include, among others, the foreign tax credit, Subpart F income, controlled foreign corporations, sourcing rules and expatriate taxation. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 568 TAXATION OF CLOSELY HELD CORPORATIONS ( PREREQ(S): ACC 560 AND ACC 561)**

This course deals with federal income tax planning in connection with the accumulated earnings tax, personal holding companies, S corporations, multiple corporations, transactions between related parties and small business corporation stock. PREREQUISITE (S): ACC 560 and ACC 561. NOTE: This is a M.S.T. course.

**ACC 569 CONCEPTS OF DEFERRED COMPENSATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

The nature, purpose and operation of the various forms of deferred compensation are examined and evaluated: employee pension; profit sharing and stock bonus plans, stock options; executive compensation plans; retirement plans for self-employed individuals; other plans. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 570 STATE AND LOCAL INCOME AND FRANCHISE TAXATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

This course identifies and examines the types of income and capital stock taxes imposed on corporations and pass-through entities by state governments. Topics include nexus and the impact of P.L. 86-272, conformity to the Internal Revenue Code, business and nonbusiness income, methods of reporting, and allocation and apportionment. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 571 ESTATE AND GIFT TAXATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

This course consists of a detailed review of the federal estate and gift tax laws. In the area of estate taxation, assets included and deductions allowed are reviewed in detail by reference to law, regulations and cases. Recognition of gifts and gift tax deductions and exclusions are also covered. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 572 CONCEPTS OF STATE PROPERTY AND TRANSACTION TAXATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

This course focuses on concepts of property and sales taxation, but will survey other state and local transaction taxes, including excise taxes, utility taxes, fuel taxes and escheat statutes. Property tax concepts include distinctions between real and personal property and valuation approaches. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 573 INCOME TAXATION OF ESTATES, TRUSTS, AND DECEDENTS (PREREQ: ACC 551 OR EQUIV, ACC 558 & ACC 571)**

This course deals with federal income taxation of estates, trusts and decedents with special emphasis on such concepts as income in respect of a decedent and estate and trust distributions. Also, included are such topics as the income and deductions included in the decedent's final return, death of a partnership member, the income and deductions of estate and trusts, the throwback rule, grantor trusts and the tax ramifications of the use of other special trusts. PREREQUISITE (S): ACC 551 or equivalent, ACC 558 and ACC 571. NOTE: This is a M.S.T. course.

**ACC 574 ESTATE PLANNING (PREREQ: ACC 571)**

This course will deal primarily with how to avoid and minimize federal estate taxes and estate administration expenses upon the subsequent demise of the client. Therefore, the student must have taken the estate and gift taxation, the use of outright gifts, the use of trusts. Generation skipping transfers and charitable gifts will also be considered. PREREQUISITE: ACC 571. NOTE: This is a M.S.T. course..

**ACC 576 FEDERAL TAX VALUATION**

Fair market value is referenced hundreds of times in the Internal Revenue Code, and many more times in the Regulations. In the initial part of this course the procedures and methods applicable to tax valuation are reviewed to heighten practitioner

awareness of the range of potential valuation outcomes, and the reasons therefore. Tax cases are used extensively to achieve this objective. In the second part of the course presentations and discussions address more specific topics such as built-in gains, determination of carryover of net operating losses, valuation aspects of charitable giving, conservation easements, ESOPs, family limited partnerships, reasonable compensation. S-corporations, special use properties, and transfer pricing.

**ACC 577 TAXATION OF FINANCIAL PRODUCTS & MKT PARTICIPANTS (PREREQ: ACC 551, ACC 558 & ACC 564 OR EQUIV)**

This course provides an in-depth analysis of the taxation of various financial products and market participants. Topics include the taxation of Section 1256 contracts; hedging transactions; foreign currency transactions and Section 988; information reporting requirements; joint venture, partnership and corporate considerations; treatment of dealers, traders and investors; and the impact of the passive activity rules and related provisions on market participants. PREREQUISITE(S): ACC 551, ACC 558 and ACC 564 or equivalent. NOTE: This is a M.S.T. course

**ACC 581 TAXATION OF REAL ESTATE (PREREQ: ACC 563 OR EQUIVALENT)**

An in-depth study of federal income taxation as it relates to real estate, including current issues and planning possibilities. Topics include consequences of acquisition and disposition, real estate development, leasing, mortgages and other financing devices and forms of ownership of real estate. PREREQUISITE: ACC 563 or equivalent. NOTE: This is a M.S.T. course.

**ACC 582 ADVANCED CONCEPTS IN INTERNATIONAL TAXATION (PREREQ: ACC 567 OR EQUIVALENT)**

This advanced course is a companion offering to the introductory international taxation course (Accountancy 567). In this course, planning issues and tax savings opportunities are emphasized in complex areas, including source of income considerations, foreign tax credit matters, Subpart F issues and the tax matters of foreign corporations. In addition, tax treaty matters, international bribes and boycott sanctions and foreign currency translation issues are addressed. PREREQUISITE: ACC 567 or equivalent. NOTE: This is a M.S.T. course.

**ACC 584 INCOME TAX AND BUSINESS DECISIONS (PREREQ: ACC 500)**

The study of the impact of federal income taxation on business decisions with emphasis on such areas as choice of business organization, executive compensation & property transactions. This course is intended for students in the M.B.A. program and restricted to those who have not had undergraduate or graduate credit for ACC 548 or ACC 551 or their equivalents. (MSA students may not take this class.) PREREQUISITE(S): ACC 500.

**ACC 586 THE ROLE OF THE CHIEF FINANCIAL EXECUTIVE (PREREQ: GRADUATE STANDING)**

Recent years have seen remarkable expansion of the financial executive's role in almost all organizations. No longer is this person's job essentially that of a chief account. Today the chief financial executive is deeply involved in the strategic aspects of management and is constantly called upon for data, analysis and advice by all levels of management. This course is therefore designed to assist students in understanding and preparing for this role as well as the roles of the treasurer and controller. Class presentations will be based on current or prior experience. PREREQUISITE (S): Graduate standing.

**ACC 587 ANALYSIS OF CONTEMPORARY ACCOUNTING PRACTICES (PREREQ: ACC 500)**

What new and creative accounting techniques are popular? What should analysts know about these techniques? How do managers make accounting choices? How do investors and creditors tend to react to these choices? Which accounting measures are the more vulnerable or risky? How do recent U.S. and international pronouncements deal with evolving accounting topics? Class presentations and discussions address these, and similar, questions. Students are encouraged to suggest topics relevant to their own current experience. Published research is emphasized. The course begins with a review of the essential financial and business valuation concepts necessary to negotiate the literature. Limited time is spent describing efficient library research skills. No time is spent on the particulars of preparing financial statements.  
PREREQUISITE(S): ACC 500.

**ACC 591 TAX EXEMPT ORGANIZATIONS (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

Tax treatment of public charities and private foundations. The way exempt status is secured and retained, qualified exemptions, unrelated business income, the loss of exemption, prohibited transactions, deductibility of contributions and required reporting and auditing. PREREQUISITE(S): ACC 551 or equivalent and ACC 558.

**ACC 598 SEMINAR ON CURRENT PROBLEMS IN TAXATION (PREREQ: ACC 558, ACC 560, ACC 561, ACC 565 & ACC 566)**

Covers recent significant developments in the future of legislation, regulations, administrative rulings and case law on federal income, estate and gift taxation. Emphasis is placed on specific tax planning in light of these current developments. Topics are discussed against background of leading Supreme Court cases. Recommended as final tax course in M.S.T. program. Required course for all candidates for Master of Science in Taxation degree. PREREQUISITE(S): ACC 558, ACC 560, ACC 561, ACC 565 & ACC 566. NOTE: This is a M.S.T. course.

**ACC 599 GRADUATE SEMINAR IN MANAGEMENT ACCOUNTING (PREREQ: ACC 502 OR EQUIVALENT)**

Capstone seminar for M.B.A. students with a concentration in Management Accounting. Attention is directed to the current developments in Management Accounting. Students learn to exercise judgement in the solution of accounting-related problems by drawing upon their integrated and comprehensive body of accounting and related knowledge. This seminar involves extensive reading and research in the literature of management accounting and related disciplines. PREREQUISITE: ACC 502 or equivalent.

**ACC 610 ACCOUNTING INFORMATION SYSTEMS (CROSS-LISTED AS ACC 535) (PREREQ: ACC 555 OR EQUIVALENT)**

Today's businessperson requires a fundamental knowledge of computer-based information systems and their role in accounting functions and financial decision-making. This course will enable the student to interface with accounting systems and to participate in their design and audit. It will focus on the nature and flows of accounting information in organizations, security, internal controls, the use of information technology in accounting information systems and decision-making. PREREQUISITE(S): ACC 555 or equivalent. NOTE: This is a M.S.A. or a M.ACC course.

**ACC 620 ADVANCED AUDITING THEORY (CROSS-LISTED AS ACC 550) (PREREQ: ACC 372 OR ACC 547 OR EQUIVALENT)**

Advanced study of auditing that includes the implementation of generally accepted auditing standards, the audit of computer-based systems and the application of statistical methods in auditing. Coverage of the concepts and literature will include the study and evaluation of internal control in computer-based systems, the application of statistical methods to tests of controls and balances, and the use of computerized

software packages in the audit process. An intensive review of current authoritative literature in auditing is also provided. PREREQUISITE (S):ACC 372 or ACC 547 or equivalent. . NOTE: This is a M.ACC course instead of MSA.

**ACC 630 BUDGETING, FINANCIAL PLANNING & CONTROL (PREREQ: ACC 542 OR EQUIVALENT)**

The study of quantitative, organizational behavioral aspects of budgeting for management planning and control. Topics include strategic planning, long-range planning, budgeting, cost analysis, capital budgeting, transfer pricing and divisional performance measurement. Exposure given to special applications in nonprofit organizations. Emphasis is placed on the use of accounting information for effective planning and control. (Enrollment is limited to students in the M.Acc, or P.M.S.A. programs or permission of instructor.) PREREQUISITE (S):ACC 542 or equivalent. . NOTE: This is a M.S.A. course

**ACC 640 ACCOUNTING THEORY AND POLICY FORMULATION (PREREQ: ACC 544, 545, 550 & 557 OR EQUIVALENT)**

A study of the process by which accounting policies are formulated. The students are asked to make critical evaluations of basic issues such as income determination and current issues such as FASB agenda items in light of their theoretical, empirical, practical and political aspects. Students are expected to demonstrate an ability to use the accounting research literature. Students should plan to take this capstone course at the end of their degree program. (Enrollment is limited to students in the M.Acc or M.S.A. programs.) PREREQUISITE (S): ACC 544, 545, and 550 or equivalent. . NOTE: This is a M.S.A. and a M.ACC course.

**ACC 690 GRADUATE INTERNSHIP (PREREQUISITE: PERMISSION)**

Technical knowledge acquired in the classroom is applied in an actual business environment through varied assignments under supervision in industry, government or public accounting. Offered variably. PREREQUISITE (S): Permission.

**ACC 798 SPECIAL TOPICS (PREREQ: AS INDICATED IN CLASS SCHEDULE)**

Content and format of this course are variable. An in-depth study of current issues in accountancy. Subject matter will be indicated in class schedule. Offered variably. PREREQUISITE (S): As indicated in the class schedule.

**ACC 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available for graduate students of demonstrated capability for intensive independent work in accountancy. PREREQUISITE: Written permission

**APPLIED BRASS**

**APB 410 BARITONE HORN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 430 FRENCH HORN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 465 TROMBONE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 467 JAZZ TROMBONE**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 470 TRUMPET**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 472 JAZZ TRUMPET**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 475 TUBA**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APPLIED KEYBOARD**

**APK 440 ORGAN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APK 450 PIANO**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APK 452 JAZZ PIANO**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

## **APPLIED MUSIC**

### **APM 405 GRADUATE RECITAL**

A full 60 minute, public recital performance of solo and/or chamber repertoire to be completed during the graduate residence. This recital is required as partial fulfillment of the degree of Master of Music in Performance and for the post-Masters Certificate in Performance. COREQUISITE: Students must be registered for a total of 4 credits of applied lessons during the quarter the recital is presented.

### **APM 415 ITALIAN DICTION/LANGUAGE LAB FOR GRADUATE STUDENTS**

This course is offered in conjunction with the first year of graduate vocal study. It focuses on the translation, pronunciation, grammatical understanding, and interpretation of Italian texts.

### **APM 416 GERMAN DICTION/LANGUAGE LAB FOR GRADUATE STUDENTS**

This course is offered in conjunction with the first year of graduate vocal study. It focuses on the translation, pronunciation, grammatical understanding, and interpretation of German texts.

### **APM 417 FRENCH DICTION/LANGUAGE LAB FOR GRADUATE STUDENTS**

This course is offered in conjunction with the first year of graduate vocal study. It focuses on the translation, pronunciation, grammatical understanding, and interpretation of French texts.

### **APM 420 REVEALING THE ACTORSINGER WITHIN**

A graduate course designed to stimulate and uncover the imagination, instinct, and vulnerability of the ActorSinger. The student will discover and integrate the tools toward becoming an expressive and passionate communicator and story-teller.

### **APM 426 HISTORY AND LITERATURE OF WOODWINDS**

### **APM 428 WOODWIND ORCHESTRAL REPERTOIRE**

(3 credits)

### **APM 431 THE ART OF THE PIANO**

The course is designed to introduce the art of piano playing as a part of broader spectrum of the world culture, and to guide the graduate students in their search for the true mastery, where playing the instrument is identified as an artistic expression of spiritual freedom, and technical prowess is seen as a step to meaningful communication.

### **APM 442 ACCOMPANYING CLASS**

(2 credits) Role of pianist as accompanist.

### **APM 443 CHAMBER MUSIC WORKSHOP**

### **APM 446 PERCUSSION PEDAGOGY**

(3 credits)

### **APM 447 ORCHESTRAL REPERTOIRE: PERCUSSION**

Study of standard orchestral repertoire.

**APM 451 PIANO PEDAGOGY**  
(3 credits) Offered Fall Quarter only.

**APM 453 ADVANCED TECHNIQUES OF THE MUSIC STAGE**  
(2 credits)

**APM 471 BRASS CONCEPTS**  
(3 credits)

**APM 486 STRING PEDAGOGY**  
(2 credits) Concepts and philosophies, teaching beginners to advancing students, and coaching chamber music.

**APM 487 ADVANCED VOCAL DICTION**  
(2 credits) Advanced study in Italian, French and German diction, phrasing and text translation.

**APM 496 VOICE PEDAGOGY**  
(2 credits) Course is designed to enhance APM 336.

**APM 497 SEMINAR**  
(2 credits) A seminar for performance majors and others, in which emphasis is placed on performance practices, program building and other areas connected with a performing career.

**APM 498 INDEPENDENT STUDY**

## **APPLIED PERCUSSION**

**APP 400 PERCUSSION**  
(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APP 401 JAZZ PERCUSSION**  
Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

## **APPLIED STRINGS**

**APS 427 GUITAR**  
(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 429 JAZZ GUITAR**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 437 HARP**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 460 STRING BASS**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 462 JAZZ STRING BASS**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 480 VIOLA**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 485 VIOLIN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 490 VIOLONCELLO**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APPLIED VOICE**

**APV 400 VOICE-STUDIO**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APV 401 JAZZ VOICE**

**APPLIED WOODWINDS**

**APW 415 BASSOON**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 420 CLARINET**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 425 FLUTE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 435 OBOE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 455 SAXOPHONE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 457 JAZZ SAXOPHONE**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**ART AND ART HISTORY**

**ART 400 CHICAGO: ARCHITECTURE AND URBANISM**

Chicago: Architecture And Urbanism

**ART 401 GRADUATE TOPICS IN ART HISTORY (PREREQ.: GRADUATE STDG OR CONSENT)**

Graduate level, intensively researched investigations into topics from the history of Western and Non-Western artforms taught by an instructor with a research specialty in that topic. PREREQUISTE(S): Graduate standing or consent of the instructor.

**ART 405 ADVANCED COLOR DESIGN (PREREQ(S): ART 105)**

Advanced Color Design PREREQUISTE(S): ART 105

**ART 427 COMPUTER GRAPHICS (PREREQ(S): ART 101 AND 105)**

Computer Graphics PREREQUISTE(S): ART 101 and 105.

**ART 460 ART AND DESIGN I: HISTORY, CONCEPT AND CULTURE (PREREQ(S): ART 101 AND 105)**

Graphic Design I PREREQUISTE(S): ART 101 and 105.

**ART 461 ART AND DESIGN II: WORD AND IMAGE**

Graphic Design II

**ART 461 ART AND DESIGN II: WORD AND IMAGE**

Graphic Design II

**ART 490 GRADUATE TOPICS IN STUDIO (PREREQ.: GRADUATE STDG OR CONSENT)**

Intensive studio experience in the student's media of choice. PREREQUISTE(S): Graduate standing or consent of instructor.

**ART 495 ADVANCED TOPICS IN ART HISTORY (PREREQ(S): GRADUATE STDG OR CONSENT)**

Advanced Topics In Art History PREREQUISTE(S): Graduate standing or consent of the instructor.

## **BILINGUAL-BICULTURAL EDUCATION**

**BBE 402 BILINGUAL-BICULTURAL CURRICULUM DEVELOPMENT**

(4 credits) Reviews theory and application of curriculum development to bilingual instructional programs, such as design, organizational patterns, materials and media, teacher training, parent and community involvement, and evaluation. Principal bilingual education program models are examined and analyzed. Includes a review of multiethnic literature and literacy that advocates for students' self-concept, acceptance, and sense of identity (includes 10 clinical hour requirement).

**BBE 404 LANGUAGE, LITERACY AND CULTURE**

(4 credits, formerly LSI 404) Examines the interdisciplinary study of language and literacy in their cultural, social, and political contexts, with emphasis on linguistically diverse communities and the implications for human developmental processes. Explores the social and political conditions that endorse different language and literacy practices and doctrines and create anti-bilingual education ideologies in the U.S. Topics include language and literacy and ethnicity, identity, social class, and gender, among other related topics.

**BBE 406 SOCIOCULTURAL AND HISTORICAL PERSPECTIVES IN BILINGUAL EDUCATION**

(4 credits, formerly LSI 406) Presents theoretical constructs of bilingual schooling in the U.S. and other multilingual societies from historical, theoretical and sociocultural perspectives. Emphasizes issues in bilingual education related to the sociocultural and legal aspects of language policy and bilingual education in the U.S. The historical trajectory of language policy and bilingual education in the U.S. is discussed in reference to Native American languages and early European settlers' language schooling practices. The focus shifts to 20th and 21st century bilingual education and immigration policies that have influenced both the advocacy for and opposition to bilingual education as well as the movement to make English the official language in the U.S.

**BBE 407 EQUITY ISSUES IN ASSESSMENT**

(4 credits, formerly LSI 407) Examines assessment procedures, including standardized and performance-based, as well as ethical standards and practices used in the assessment of culturally and linguistically diverse students. Equity and legal issues related to assessment practices, research, first and second language acquisition, bilingualism, cultural and sociopolitical issues related to assessment are discussed. Emphasizes existing biases in assessment and non-discriminatory assessment practices and policies. National, state, and local assessment policies are examined (includes 10 clinical hour requirement).

**BBE 425 BILITERACY PRACTICES IN BILINGUAL EDUCATION AND ESL**

(4 credits, formerly LSI 425) Analyzes and evaluates methods and materials used in bilingual education and ESL programs. Stresses effective instructional strategies and best practices in first and second language literacy development and content learning. Reviews language teaching approaches and cooperative models of learning relating to development of reading and writing in the first and second language. Presents the acquiring language through content learning versus learning language programs. Investigates appropriate first language usage in bilingual classrooms, focusing on the different content areas, appropriate terminology for native language instruction, and the study of language distribution issues (includes 15 clinical hour requirement).

**BBE 466 FIRST AND SECOND LANGUAGE ACQUISITION**

(4 credits) Addresses the relationship between language development and use and social, emotional, cognitive, and physical development of children. Introduces the study of bilingualism by examining theoretical constructs and research in psycholinguistics, sociolinguistics, and applied linguistics. Includes an analysis of language contact phenomena, cross-linguistic transfer, language alteration, language shift and loss, and bilingualism (includes 10 clinical hour requirement).

**BBE 510 ADVANCED LANGUAGE SEMINAR**

This course is designed to explore a specific area of study in the field of linguistics, such as sociolinguistics, psycholinguistics, applied linguistics, language planning and policy, and cognitive bilingualism, among other related topics. The particular focus of study will vary and change as the course is offered.

**BBE 520 RESEARCH METHODS IN BILINGUAL & BICULTURAL STUDIES**

(4 credits) Introduces and develops research design for the study of linguistic, social, and psychological variables in bilingual, second language, and dialectically diverse populations; emphasis on designing and carrying out a research project related to bilingual education and/or second language acquisition issues. The Research Methods in Bilingual & Bicultural Studies course will focus on research issues in bilingual-bicultural education. It will provide students with opportunities to develop research questions, establish methods, review research literature, and begin field work for the writing of their Masters theses or M.Ed. papers. PREREQUISITE: SCG 410.

**BBE 524 METHODS OF TEACHING ESL**

(4 credits, formerly CS 524) Course examines the relationship of reading and writing development to second language acquisition in ESL contexts. Discusses various learning and teaching approaches that effectively extend English language learners' literacy and language skills. Explores the literacy progress of native and non-native speakers of English by examining the theoretical perspectives of language and literacy development (includes 15 clinical hour requirement).

**BBE 526 THEORETICAL FOUNDATIONS OF TEACHING ESL**

(4 credits, formerly CS 526) Presents an introduction to the field of English as a second language, with attention to basic concepts of second language acquisition in various language learning contexts. Discusses interdisciplinary perspectives of second language acquisition and their application to classroom practices. The different factors influencing the acquisition of English as a second language are examined as well as current research in applied linguistics and different approaches to language teaching.

**BBE 588 INDEPENDENT STUDY IN BILINGUAL BICULTURAL EDUCATION (PERMISSION REQUIRED)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

**BBE 589 THESIS RESEARCH IN BILINGUAL-BICULTURAL EDUCATION**

(4 credits) A student writing a thesis registers for this course for four quarter hours of credit. When the thesis research and writing of the thesis are prolonged beyond the usual time, the program advisor may require the student to register for additional credit.

**BBE 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter. Non-Credit Course.

**BBE 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases.

**BBE 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "how theories work."

**BIOLOGICAL SCIENCES****BIO 400 DEVELOPMENT OF TOPICS FOR RESEARCH**

The purpose of this course is to help graduate students develop skills necessary to formulate research questions and design methods for their implementation. Students will, with the guidance of a faculty member, undertake a detailed investigation of a topic, formulate a potential research project in that area, and present their proposal orally to the faculty at the end of the quarter. Two quarter hours.

**BIO 401 INDEPENDENT STUDY**

Two or four quarter hours. Experimental and/or Library study of selected topics in the life sciences. A-Cell Biology, B-Immunobiology, C-Developmental Biology, D-Physiology,

E-Endocrinology, F-Genetics, G-Structural Biology, H-Ecology, I-Molecular Biology, J-Neurobiology. Offered in the Autumn, Winter, Spring and Summer quarters. Two or four quarter hours.

**BIO 405 BIOMETRY (LAB FEE) (CROSS-LISTED AS BIO 305)**

**BIO 409 PLANT PHYSIOLOGY (CROSS-LISTED AS BIO 309) (LAB FEE)**

Functional and developmental aspects of plants, especially of vascular autotrophs. Lecture-laboratory. Lab fee.

**BIO 415 TOPICS IN ECOLOGY (CROSS-LISTED AS BIO 315)**

The focus of this course is to read and critique classic papers in ecology and to connect their foundational ideas with modern research and understanding.

**BIO 416 PHYCOLOGY (CROSS-LISTED AS BIO 316) (LAB FEE)**

Introduction to algae with emphasis on taxonomy, morphology, ultrastructure, physiology, life histories of freshwater and marine species. Lecture-laboratory. Lab fee. PREREQUISTE(S):Graduate standing or consent of instructor.

**BIO 417 AQUATIC BIOLOGY (CROSS-LISTED AS BIO 317) (LAB FEE)**

The study of biological, physical and chemical phenomena in fresh water and marine environments. Emphasis on organisms and their interactions. Lecture-laboratory. Lab fee. PREREQUISTE(S):Graduate standing or consent of instructor.

**BIO 420 MICROBIAL ECOLOGY**

This course will explore key roles that microorganisms play in life on earth and how they are being used in biotechnology. This is a lab course, which will enable students to study processes used in the enrichment, isolation, and identification of microorganisms from various environments.

**BIO 425 CELLULAR EVENTS IN THE IMMUNE RESPONSE**

Analysis of cellular and subcellular interactions in the immune response. Lecture, seminar, discussion. PREREQUISTE(S):Completion of Immunobiology course or its equivalent.

**BIO 430 DEVELOPMENTAL BIOLOGY**

A survey of developmental phenomena in animals from fertilization to sexual maturity. Topics include gametogenesis, early cell divisions, organ formation, metamorphosis, regeneration, birth defects, stem cells, reproductive technology and mammalian cloning. Lecture-laboratory. Lab Fee. PREREQUISITES: Bio 250 AND Bio 260 or consent of instructor.

**BIO 431 TOPICS IN DEVELOPMENTAL BIOLOGY (CROSS-LISTED AS BIO 331)**

This seminar course examines the current embryological literature using both evolutionary and molecular perspectives. Previous student-led topics include: how early embryos are organized, the signals controlling left-right asymmetry, the evolutionary origin of feathers and the development of the retina. PREREQUISTE(S):BIO 330 or BIO 360 or consent of instructor.

**BIO 433 MYCOLOGY (CROSS-LISTED AS BIO 333)**

This course provides an opportunity for students to integrate their knowledge of cell biology, genetics, ecology and physiology at the organismal level by focusing on fungi. Students will gain an appreciation of the biological diversity within the major groups of fungi and their role in the environment, research and biotechnology. Lecture-laboratory. Lab fee.

**BIO 435 CONCEPTS IN EVOLUTION (CROSS-LISTED AS BIO 335)**

Study of evolution and diversity in the living world. Lecture only.

**BIO 439 CELLULAR NEUROBIOLOGY (CROSS-LISTED AS BIO 339)**

A study of the cellular and molecular mechanisms of the nervous system and the role they play in neural signaling and neural development. PREREQUISITE(S): Graduate standing or consent of the instructor.

**BIO 440 SYSTEMS NEUROBIOLOGY (CROSS-LISTED AS BIO 340)**

An examination of the ways in which neural systems underpin behavior with an emphasis on vertebrates. In this course, behavior is understood in its broadest sense, from the functioning of organs and organ systems to the activities of whole organisms. Lecture-Laboratory. Lab Fee. PREREQUISITE(S): Graduate standing or consent of instructor.

**BIO 441 TOPICS IN NEUROBIOLOGY**

A seminar course examining current topics in neurobiology. Original readings will include both current review and classic articles in the fields of neurobiology, neuroethology and the related neurosciences. PREREQUISITE(S): BIO 439 or BIO 440.

**BIO 445 TOPICS IN PALEOBIOLOGY (CROSS-LISTED AS BIO 345)**

A seminar course examining various topics in paleobiology (the study of ancient life) including morphological concepts, macroevolutionary processes, extinction events, phylogenetic systematics, paleoecology, paleobiogeography, and the adequacy of the fossil record. Readings include classic and recent articles in the fields of paleobiology.

**BIO 447 TOPICS IN MEDICAL BACTERIOLOGY**

This course will address current topics of concern and research in medical bacteriology. Students participating in this course will explore key concepts used in bacterial pathogenesis and learn how to critically appraise recent research papers in the field. Prerequisite: Completion of BIO 210 or equivalent.

**BIO 448 THE BIOLOGY OF INFECTION**

This course will provide students with detailed knowledge of medically important bacteria. The course will first examine common events in infections and the body's responses to infection. We will highlight in these studies the changes in both hosts and pathogens as strategies of infection and immunity evolve relative to one another. Within this framework we will examine a spectrum of infectious diseases in detail. PREREQUISITES: BIO 210 (Microbiology), BIO 250 (Cell Biology), and BIO 370 (Immunobiology)

**BIO 450 PROBLEMS IN CELL MOTILITY**

Analysis of contemporary problems in cellular movements, with emphasis on the biochemistry, biophysics and regulation of cell and organelle movements. Lecture, seminar, discussion.

**BIO 452 ADVANCED COMPARATIVE PHYSIOLOGY (CROSS-LISTED AS BIO 352)**

Comparative and environmental approach to the function and mechanisms of vertebrate organ systems. Selected topics in comparative physiology will be addressed using a lecture/discussion/seminar format.

**BIO 460 MOLECULAR BIOLOGY (CROSS-LISTED AS BIO 360) (LAB FEE)**

Study of biology at the molecular level, focusing on the regulation of gene expression and the principles of genetic engineering. Lecture-laboratory. Lab fee.

**BIO 460 MOLECULAR BIOLOGY (CROSS-LISTED AS BIO 360) (LAB FEE)**

Study of biology at the molecular level, focusing on the regulation of gene expression and the principles of genetic engineering. Lecture-laboratory. Lab fee.

**BIO 461 TOPICS IN MOLECULAR BIOLOGY (CROSS-LISTED AS BIO 361)**

Discussion and seminars in selected areas of molecular biology.

**BIO 468 DEVELOPMENTAL TOXICOLOGY (CROSS-LISTED AS BIO 368)**

The toxic effects of drugs and chemicals, especially on the developing mammalian organism including the human. Laboratory project in experimental induction of birth defects. Lecture-laboratory. Lab fee. Cross-listed as BIO 368

**BIO 471 IMMUNOBIOLOGY (CROSS-LISTED AS BIO 370) (LAB FEE)**

Basic factors governing immune phenomena and antigen antibody reactions. Lecture-laboratory. Lab fee.

**BIO 486 INTRODUCTION TO ENDOCRINOLOGY (CROSS-LISTED AS BIO 386)**

A study of hormones as chemical regulators of development, growth, metabolism, homeostasis, reproduction, response to stress, and behavior; as well as hormone synthesis, chemistry, mechanisms of action, and endocrine gland structure. PREREQUISITE(S):BIO 250, BIO 260, and BIO 310 or consent of instructor.

**BIO 488 ADVANCED ENDOCRINOLOGY**

Analysis of non-hypothalamic-hypophyseal pathways for hormonal regulation of the structure, function and biochemistry of hard tissues, calcium metabolism, and regulation of glucose metabolism. Lecture-seminar. PREREQUISITE(S):BIO 386 or BIO 486, or equivalent.

**BIO 490 SPECIAL TOPICS (CROSS-LISTED AS BIO 390)**

Occasional courses offered at the graduate level. See schedule for current offerings. Two or four quarter hours. PREREQUISITE(S):graduate standing in Biology.

**BIO 491 MASTER OF ARTS SEMINAR**

A seminar course dealing with current readings in the biological sciences. Students will evaluate and interpret these readings both orally and in writing. PREREQUISITE(S):Second year standing in the Master of Arts program

**BIO 495 INTRODUCTION TO GRADUATE STUDY**

Presents the biology faculty and facilities. Various research and teaching methods in biology will be explored. Consideration of such topics as laboratory safety, handling of radioactive chemicals, instrument and equipment use, handling living organisms, library and computer use, etc. Required of all graduate students. Autumn quarter only. Two quarter hours.

**BIO 496 RESEARCH**

Experimental work in selected areas of biology. These studies do not necessarily relate to a thesis. Autumn, Winter, Spring, Summer. Laboratory. Two or four quarter hours. Laboratory fee. PREREQUISITE(S):Approval of the department.

**BIO 498 RESEARCH FOR MASTER'S THESIS**

Original study of a specific biological problem leading to a thesis. Autumn, Winter, Spring, Summer. Laboratory. Two or four quarter hours. Laboratory fee. PREREQUISITE(S):Approval of the department.

**BIO 500 SEMINAR (REQUIRED FOR FIRST YEAR GRADUATE STUDENTS)**

Non-credit. Presentation, throughout the academic year, of their research by practicing scientists from a variety of institutions. Required of first year graduate students.

**BIO 501 SEMINAR CONTINUATION (REQUIRED FOR SECOND YEAR GRADUATE STUDENTS)**

Non-credit. Presentation, throughout the academic year, of their research by practicing scientists from a variety of institutions. Required of second year graduate students.

**BIO 502 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. Non-credit. Fee.

**BUSINESS LAW**

**BLW 500 LEGAL AND ETHICAL ENVIRONMENT (PREREQ: GRADUATE STANDING)**

This is an introduction to the nature and sources of law, including an analysis of ethical perspectives present in the judicial process. Students will learn how legal and ethical issues influence the decision-making process of managers. Students will explore the relationship between personal values and business decisions, and whether there exists a social responsibility of managers. This course will cover legal concepts relevant to business including basic concepts of public law (constitutional and administrative law) and private laws (sales and product liability). Students will examine business organizations and issues in employment law. PREREQUISITE: Graduate Standing

**BLW 506 LEGAL ASPECTS OF BUSINESS-IN THE MANAGERIAL PROCESS (PREREQ: BLW 500)**

In addition to a presentation of general corporate legal theory, stress is placed upon the most critical aspect of administrative legal liability and duties out of which this flows. The internal and external responsibilities of the corporate officer, director or manager as well as those of the members of partnerships are reviewed thoroughly in the light of recent legal developments. PREREQUISITE(S): BLW 500.

**BLW 508 LEGAL ASPECTS OF BUSINESS-TOTAL PERSPECTIVE FOR THE EXECUTIVE**

Personal and professional legal liability of officers and directors has received considerable attention in recent years, thus highlighting the need for a view of the totality of his or her legal environment. It demands an integrated understanding and planning of the reciprocal aspects of his or her legal, social and ethical responsibilities and rights encountered in his or her office, outside and at home. From the end of the spectrum focusing on possible criminal and civil liabilities to the personal responsibilities of proper estate planning; the "socio-legal world of the executive" is presented. PREREQUISITE(S): BLW 500.

**BLW 798 SPECIAL TOPICS (PREREQ: BLW 500)**

Content and format of this course are variable. Subject matter will be indicated in class schedule. PREREQUISITE(S): BLW 500.

**BLW 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in business law. PREREQUISITE: Written permission.

**CHEMISTRY**

**CHE 412 QUANTUM CHEMISTRY (PREREQUISITE: CHE 215)**

Quantum chemistry, electronic structure of atoms and molecules, molecular spectroscopy. PREREQUISITE(S):CHE 215. (Cross-listed as CHE 312)

**CHE 422 ADVANCED INORGANIC CHEMISTRY I**

Offered: Winter of even-numbered years.

**CHE 424 ADVANCED INORGANIC CHEMISTRY II (PREREQ: CHE 422 ) (OFFERED EVEN-NUMBERED YEARS)**

Offered: Spring of even-numbered years PREREQUISITE(S):CHE 422

**CHE 430 POLYMER SYNTHESIS (OFFERED EVEN-NUMBERED YEARS)**

Offered: Spring of even-numbered years PREREQUISITE(S):CHE 175 or CHE 125 or equivalent.

**CHE 432 PHYSICAL CHEMISTRY OF POLYMERS (OFFERED ODD-NUMBERED YEARS)**

Offered: Spring of odd-numbered years PREREQUISITE(S):CHE 215 or equivalent.

**CHE 434 POLYMER CHARACTERIZATION (OFFERED EVEN-NUMBERED YEARS)**

Offered: Autumn of even numbered years. PREREQUISITE(S):CHE 215 or equivalent.

**CHE 440 BIOCHEMISTRY III (CROSS-LISTED AS CHE 344)**

Offered: Spring (Cross-listed as CHE 344)

**CHE 442 ADVANCED BIOCHEMISTRY I**

In-depth exploration of the structure/function relationship of biomolecules, especially proteins. Offered: Autumn of even-numbered years.

**CHE 444 ADVANCED BIOCHEMISTRY II (PREREQ: CHE 442)**

Discussion and seminars in selected areas. Offered: Winter of odd-numbered years. PREREQUISITE(S):CHE 442.

**CHE 450 ADVANCED ORGANIC CHEMISTRY I**

Offered: Autumn PREREQUISITE(S):CHE 125 or CHE 175 and CHE 210.

**CHE 452 ADVANCED ORGANIC CHEMISTRY II (PREREQUISITE: CHE 450)**

Offered: Winter PREREQUISITE(S):CHE 450.

**CHE 460 COATINGS TECHNOLOGY I (OFFERED ODD-NUMBERED YEARS)**

Offered: Spring of odd-numbered years. PREREQUISITE(S):CHE 175 or CHE 125 and CHE 215 or equivalent.

**CHE 461 COATINGS TECHNOLOGY LABORATORY I (LAB FEE)**

2 quarter hours. Laboratory fee: \$70.00. Offered: Spring of odd-numbered years.  
PREREQUISITE(S):CHE 175 or CHE 125, and CHE 215, or equivalent.

**CHE 462 COATINGS TECHNOLOGY II (OFFERED ODD-NUMBERED YEARS)**

Offered Autumn of odd-numbered years. PREREQUISITE(S): CHE 175 or CHE 125;  
CHE 215 or equivalent; and CHE 430.

**CHE 463 COATINGS TECHNOLOGY LABORATORY II (FEES)**

Two quarter hours. Laboratory fee: \$70.00. Offered: Autumn of odd-numbered years.  
PREREQUISITE(S):CHE 175 or CHE 125 and CHE 215 or equivalent.

**CHE 470 ADVANCED PHYSICAL CHEMISTRY I**

Thermodynamics. Offered: Autumn of even-numbered years. PREREQUISITE(S):CHE  
215 or equivalent.

**CHE 472 ADVANCED PHYSICAL CHEMISTRY II (PREREQUISITE: CHE 215)**

Kinetics. Offered: Winter of odd-numbered years. PREREQUISITE(S):CHE 470.

**CHE 478 ADVANCED TOPIC IN PHYSICAL CHEMISTRY**

This course may be repeated for credit if the topic is different. Offered: by arrangement.

**CHE 480 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY**

This course may be any topic related to chemical analysis, such as mass spectroscopy,  
electrochemical analysis, principles of chromatography, polymer properties, coatings,  
sampling methods, design of experiments, etc. This course may be repeated if the topics  
are different. Offered: Autumn of odd-numbered years PREREQUISITE(S):CHE 261.

**CHE 490 STATISTICAL ANALYSIS OF DATA (OFFERED ODD-NUMBERED YEARS)**

This course introduces students to statistical methods that can be used in error  
analysis of experimental data. Computers are used to apply concepts discussed in  
lecture to actual data sets. Offered: Winter of even-numbered years. Familiarity with  
Excel or a modern programming language is strongly recommended. (Cross-listed with  
CHE 390)

**CHE 494 SEMINAR**

Formal and/or informal discussion on topical subjects in chemistry. Variable credit.  
This course may be repeated for credit PREREQUISITE(S):Consent

**CHE 496 LIBRARY RESEARCH (ADVISOR CONSENT REQUIRED)**

Students doing library research must register for this course. Variable credit. This  
course may be repeated for credit.

**CHE 497 RESEARCH**

Students doing laboratory research must register for this course. Variable credit.  
Laboratory fee: \$70.00. Offered every quarter. This course may be repeated for credit.  
PREREQUISITE(S):Permission of advisor.

**CHE 500 INDEPENDENT STUDY**

Variable credit. Offered: by arrangement. This course may be repeated for credit.  
PREREQUISITE(S):permission of chair.

**CHE 502 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally  
utilize University facilities during completion of course requirements and/or research.

Non-credit. \$70.00 per quarter.

## **COMMUNICATION**

### **CMN 500 HISTORY OF PUBLIC RELATIONS AND ADVERTISING**

This course offers students a survey of significant historical developments in the rise of American public relations and advertising, including the individuals and the social, cultural and political trends that have shaped the fields in the nineteenth and twentieth centuries. Students will consider the relationship between current professional practice and the evolution of modern public relations and advertising techniques.

### **CMN 501 COMMUNICATION IN CULTURAL CONTEXTS**

Analyzes theories of the interaction between culture and communication. Investigates the facets of culture that influence communication in a variety of settings, ranging from corporate and educational realms to social and familial domains, particularly among people from different cultures. Examines how communication can serve to bridge gaps in a multicultural setting.

### **CMN 502 INTERCULTURAL COMMUNICATION THEORIES**

The course provides an overview of different theories of intercultural communication. The course also prepares students to conduct pure theoretical inquiry and theory-driven research into intercultural communication practices, processes, and patterns.

### **CMN 503 COMMUNICATION AND CULTURES IN TRANSITION**

Explores the role of communication in facilitating and inducing cultural change on a national and international scale. Examines the interaction between culture and communication and the impact of interaction on cultural transition and transformation in contemporary societies. The course takes a case study approach to one international culture (eg. China, India, Latin American countries, Russia, Saudi Arabia) or of social issues and social movements in the United States (eg. women's liberation, civil rights, pop cultures).

### **CMN 504 LANGUAGE, THOUGHT AND CULTURE**

This course examines the interrelationship among language, thought, and culture. Reviews and critiques theories and research of how language or the use of symbols reflects culture and shapes reality for certain cultural/ethnic groups and organizations. Explores how language influences thought and action of the collective and of individuals in social, political and organizational settings.

### **CMN 505 CRITICAL PERSPECTIVES ON PUBLIC RELATIONS AND ADVERTISING (PREREQ: CMN 555)**

This course examines the ever-increasing influence of public relations and advertising in our society, highlighting issues of power and social responsibility. Students are asked to think critically about the societal effects of public relations and advertising and their roles in the production and maintenance of public opinion. Future practitioners consider the potentially adversarial relationship that exists between public relations and advertising and the media in societies based on a free press.

### **CMN 509 TOPICS IN MULTICULTURAL COMMUNICATION**

Offers topics such as: A) Interethnic Communication. Examines theories and research on ethnicity and interactions among different ethnic groups. Investigates

communication patterns and roots of different ethnic groups in the US. and explores the role of communication in achieving diversity and unity. B) E.T. Hall: Theory to Practice: This course reviews theories that have stemmed from the work of Edward T. Hall. The course requires students to engage in theory development based on his ideas and then develop a research project to test the theories that have developed.

#### **CMN 510 SPEECH WRITING AND PRESENTATION**

The course will allow students to gain experience writing and delivering speeches and making professional presentations. An emphasis will be placed on the role of speeches and speechwriters and the responsibilities associated with those involved in such an integral part of a democratic society. The multiple uses and value of speeches and presentations as public relations tools will also be addressed.

#### **CMN 515 PUBLIC RELATIONS WRITING**

The goal of this course is to help students develop the professional writing skills needed for success in public relations. Students analyze the process of strategic public relations planning and explore the communication techniques used to establish positive relationships with organizational constituents. They apply what they have learned by developing and presenting a variety of public relations materials, such as program plans, news releases, magazine/report/newsletter copy, video scripts, web copy and speeches. Upon the successful completion of this course, students will have a professional portfolio of public relations writing samples. (Prerequisite: CMN 555).

#### **CMN 520 PUBLIC RELATIONS THEORY**

This course is designed to orient students to the theories that dominate Public relations scholarship, as well as the prevailing theories applied in practice. Students will review the historical evolution of various theories, critiques that have contributed to theory development, and the current status of various theories in the field. (Prerequisite: CMN 555)

#### **CMN 521 LANGUAGE AND POWER**

Reviews the role of language and representation as social power. Topics include rhetorical form as strategy, semiotic analysis of power relations, language and the construction of subjectivity, and discursive structures of empowerment.

#### **CMN 522 RHETORICAL CONSTRUCTIONS OF IDENTITY**

Focuses on the rhetorical theories and practices through which various cultural groups within the US. construct a sense of identity. The course examines different rhetorical forms and strategies through an analysis of the rhetorical situations, texts and artifacts of various cultural groups.

#### **CMN 523 GENDERED COMMUNICATION (CROSS-LISTED AS MLS 445/WMS 440)**

Examines research into the ways the various aspects of communication are affected by and affect the social construction of gender. Topics covered include language and language usage differences, interaction patterns and perceptions of the sexes generated through language and communication.

#### **CMN 524 PERSUASION**

This course introduces students to theories of persuasive communication used in public relations and advertising. Persuasion will be examined at interpersonal, group, and societal levels. Students also will consider the ethical considerations important in any discussion of persuasive communication.

### **CMN 525 COMPARATIVE MANAGEMENT COMMUNICATION**

Comparative Management Communication explores the challenges and opportunities associated with communication with individuals and groups of other countries in a workplace setting. As such, this course begins with a close look at the cultural dimensions along which individuals of differing nationalities have been found to vary. An examination of the applicability of cutting edge U.S. management theory/prescription around the world follows. Next, the course surveys the intercultural communication training literature. Here, particular emphasis is given to international personnel selection, as well as intercultural training program development and assessment. The implications of these issues for sojourner adaptation are also considered. The final part of this class is devoted to developing an understanding of an emerging field of research - intercultural and organizational communication - which examines the intersection between organizational and culture in the multinational organization environment.

### **CMN 526 COMMUNICATION IN ORGANIZATIONAL ASSIMILATION**

This class introduces students to the processes by which individuals join, become a part of, and exit organizations. The course structure closely parallels the popular organizational assimilation stage model outlined below, but takes an explicit multicultural perspective throughout. Specifically, in addition to discussing the traditional body of work on this subject, which often ignores issues of diversity, this course examines the organizational assimilation experiences for women, gays/lesbians, and ethnic minorities in the United States. Revealed here are some of the subtle and not-so-subtle ways which employees can be discriminated against at different stages of the assimilation process.

### **CMN 527 ASSESSMENT AND INTERVENTION IN ORGANIZATIONS**

Organizations are symbolic realities constructed by humans in communication. In other words, organizations are creations, and both organizational members and observers need to comprehend them as such. Communication 527 is devoted to preparing you to become communication professionals able to understand organizations through the analysis of organizational patterns of meanings and expectations. Communication professionals help organizations to improve communication by (1) identifying differences between actual and desired conditions of communication and (2) devising ways to close the gap between actual and desired states. The first function involves organizational communication evaluation (gathering, analyzing, and interpreting data about an organization's communication processes). The second function is referred to as intervention (actions taken to improve organization communication). People who perform organizational communication evaluation and intervention may be members of the organization or outside agents brought in to perform specific projects. This class will on the role of the communication professional in the maintenance and change of organizational communication functions, structures, and the communication processes that occur at various systems levels, including dyads, groups, intercultural and multicultural relations, and organization-wide network processes.

### **CMN 530 PUBLIC RELATIONS AND ADVERTISING MANAGEMENT (PREREQ: CMN 555 AND CMN 553)**

This course focuses on the application of management principles and practices to the effective development of public relations and advertising plans, programs and campaigns. The course examines management practices in organizational and firm settings and considers issues and practices related to planning, budgeting, new business development and account management. PREREQUISITES: CMN 555 and CMN 553.

**CMN 535 HEALTH COMMUNICATION**

This course will help students understand the organizational impact of health policy in America and prepare students to assume roles in communication management positions in the United States health care industry. Students will explore current issues in health policy such as the problem of the uninsured, the rising cost of health care, and the politics of health. Each student will be responsible for focusing on a particular aspect of health policy and developing a report on the topic.

**CMN 540 CRISIS COMMUNICATION MANAGEMENT**

This course examines institutional crisis communication from a management perspective. Emphasis is on crisis response strategies and organizational approaches for preventing and managing crisis events. Students develop case studies of contemporary crises and participate in simulations designed to develop professional expertise and practical skills in crisis communication management.

**CMN 541 CORPORATE COMMUNICATION AND CULTURE (CROSS-LISTED AS MPS 501)**

The central purpose of this course is to introduce students to the role communication plays in organizational life. Throughout the quarter, attention will be devoted to examining the various theoretical perspectives from which organizational communication can be viewed, and selectively surveying major content topics and current issues in the organizational communication literature.

**CMN 542 MULTICULTURAL COMMUNICATION IN THE WORKPLACE**

Multicultural issues affect the communication of organizational members on a day-to-day basis. This course examines multicultural issues in professional settings. It provides students with knowledge about co-cultural communication patterns, which will enhance their own ability to interact. Further, it demonstrates how multicultural communication can be an organizational asset.

**CMN 543 COMMUNICATION AND ORGANIZATIONAL CHANGE**

Change in an organization implies change in communicative processes at the individual, dyadic, group and systemic levels. Communication variables that define patterns of interaction within these organizational contexts will be examined as well as key issues that might cause communication difficulties.

**CMN 544 POLITICS AND POWER IN ORGANIZATIONS**

Examines political activities sanctioned and encouraged by organizations, subjective political activities initiated by individuals, bases of power within organizations (influence strategies), living and working with organizational politics (coping mechanisms).

**CMN 545 COMMUNICATION AND TECHNOLOGY**

Communication and Technology explores the process through which technological and social systems co-create or invent each other. As such, this course not only examines the role that new communication technologies play in shaping our social systems and the organizations within them, but also looks at how social, cultural, economic and legal contexts influence the development and emergence of these technologies.

**CMN 546 BUSINESS AND PROFESSIONAL COMMUNICATION**

Explores presentational skills, interviewing skills, bargaining and negotiating skills, and small group communication skills. Surveys topics critical to effective managerial communication in a corporate environment.

**CMN 547 COMMUNICATION IN CUSTOMER SERVICE**

America's economy is currently driven by service industries. In this course we will explore the communicative dimensions of customer service. By reviewing the theory and research of customer service and exploring the research methods available for assessing service, students will be both better able to appreciate the service process and diagnose and change ineffective service systems.

**CMN 548 TEAMS AND LEADERSHIP****CMN 549 TOPICS IN CORPORATE COMMUNICATION**

Offers topics such as: Comparative Management and Communication. Examines and contrasts the management philosophies of different cultures around the world, paying special attention to how European and Asian organizational practices influence structure, culture and communication within American corporations.

**CMN 552 STRATEGIC COMMUNICATION**

This course explores the process by which communicators attempt to accomplish their goals. In particular, this course covers theories of persuasion, strategic message design (creating messages that take into account multiple audiences and goals), and how the inferential process influences decision-making.

**CMN 553 ADVERTISING**

This foundational course examines the theories, principles, applications and standards of advertising in multiple contexts, both from the perspectives of the practitioner and the consumer.

**CMN 555 PUBLIC RELATIONS**

This course involves the study of the theory, history, practice and future of public relations in a comprehensive way. It is a course designed to allow public relations students to understand the breadth of the field and to investigate specific areas of public relations (i.e., political, medical, financial, government, corporate, education, etc.). It will also cover the operations and objectives PR practice from both the corporate and non-profit sectors.

**CMN 560 POLITICAL PUBLIC RELATIONS**

Political public relations focuses on the development and delivery of strategic messages by political parties, candidates, and officeholders in American politics. Students will be responsible for researching, discussing, and evaluating the effectiveness of these messages. Special emphasis will be placed on the role of the spokesperson on a political campaign and/or serving as a spokesperson for an elected official.

**CMN 561 INTERNATIONAL MEDIA**

Examines the political economy of the global media, with attention to institutional, historical, and contemporary questions of ownership and program content, as well as representations by the US. commercial news media of the foreign other and the representation of Western culture and institutional life in non-Western contexts. Includes examination of issues in the mass media now debated within the international community, pursuing questions about the New World Information Order, the international marketplace of images, cultural imperialism and national culture, and types of programming aimed at an international audience.

**CMN 562 MEDIA RELATIONS**

Explores the communication between reporters and organizational spokespeople. Topics include goals of reporters and spokespeople during the transmission of information, interpretation of the various types of corporate media for reporters, techniques for

corporate spokespeople for giving effective interviews. Case studies (eg. Michael Deaver's handling of Ronald Reagan's presidential image) will be analyzed.

**CMN 563 MULTICULTURAL MEDIA REPRESENTATIONS (PREREQ(S): CMN 346 OR EQUIVALENT)**

This course examines both representational practices and theories that are informed by multicultural perspectives. It explores ways in which scholars and media practitioners have dealt with the epistemological problem of "difference" The course may take up topics such as race, class, age, and sexual orientation as categories of difference that have informed and continue to inform academic inquiries. The course also looks at historical and/or contemporary media texts, and analyzes them through these methods. PREREQUISITE(S):CMN 346 Culture and Media or its equivalent.

**CMN 564 MEDIATED COMMUNICATION**

**CMN 575 COMMUNICATION LAW AND ETHICS**

This course covers the aspects of communication law and ethics relevant to communication professionals. Legal topics include First Amendment concepts, libel, privacy, copyright, freedom of information, and regulation of advertising. The ethical component focuses on the professional responsibilities of practitioners in communication fields with special emphasis on public relations and advertising.

**CMN 580 INTRODUCTION TO ACADEMIC WRITING**

This course prepares incoming graduate students with basic academic writing skills required at the graduate level. It covers an introduction to library research, critical reading and writing, essay writing mechanics, grammar and punctuation, MLA and APA documentation. The class will be conducted with some lectures and mostly discussions on esoteric writing issues related specifically to graduate students.

**CMN 581 QUALITATIVE RESEARCH METHODS**

Introduction to qualitative approaches to research in communication. The course includes a systematic review and application of ethnography, unstructured interviewing, personal document analysis, historical research, and critical practice. Addresses the rationale, method, and theory of each qualitative approach to research in addition to placing emphasis upon data collection and interpretation.

**CMN 582 QUANTITATIVE RESEARCH METHODS**

Introduces students to quantitative approaches to research and basic statistics. Topics include research design and control, survey construction, measurement and other general research issues, nonparametric statistics, correlation, the t-test and analysis of variance.

**CMN 584 ADVANCED ACADEMIC WRITING**

This course addresses academic writing concerns for graduate students who are preparing to write their theses. The course will combine individualized conferencing with group discussion. The students will use their own previous work(s) as an investigative tool in understanding both their individual writing needs as well as the theoretical issues which exist in writing a master's thesis. The course will also examine examples of completed theses as models for the student's own final work. Student should submit a paper to the instructor as soon after registration as possible, but certainly before the first night of class.

**CMN 585 RESEARCH METHODS FOR THE COMMUNICATION PROFESSIONAL**

This course covers core issues involved in the collection and analysis of information to be used in decision-making. Topics covered include the retrieval of archival data, survey

design, focus group interviewing, sampling techniques, techniques for analyzing data, and campaign evaluation.

#### **CMN 590 COMMUNICATION PRACTICUM IN GROUP FACILITATION**

#### **CMN 591 INTERNSHIP**

In consultation with the graduate advisor and the internship director, students design a field experience to be undertaken under the supervision of a project director in the field. The internship may be connected to a question derived from coursework, related to the student's thesis topic, or based on a personal research objective. It may include appropriate experiences determined by the field supervisor as well as the student's individual goals.

#### **CMN 592 INDEPENDENT STUDY (PREREQUISITE:APPROVAL OF INSTRUCTOR AND DEPARTMENT CHAIR)**

PREREQUISITE(S):approval of instructor and chair.

#### **CMN 595 SPECIAL TOPICS IN PUBLIC RELATIONS & ADVERTISING (PROCESS)**

This course examines a broad range of topics related to public relations and advertising processes. The course may address such topics as issues management, consumer behavior, relationship management, strategic planning and program development, or integrated communication campaigns.

#### **CMN 596 SPECIAL TOPICS IN PUBLIC RELATIONS/ADVERTISING (APPLICATION) (PREREQ: CMN 553)**

This course examines a broad range of application topics in public relations and advertising. Courses may address the uses and impact of new technologies, publication design, proposal writing, Web-based media writing, computer graphics, video production, creativity and other topics. Other courses may focus on specific industry applications in such areas as education, sports and entertainment, arts and culture, health and science, financial or technology.

#### **CMN 597 COLLOQUIUM ON PUBLIC RELATIONS AND ADVERTISING**

This course brings students together with professionals in public relations and advertising to illustrate the diverse nature and responsibilities of work in these fields. Speakers from non-profit, corporate and government settings are invited to share their professional experiences and to discuss industry trends and issues; the knowledge competencies and skills required to succeed in these domains, and/or current topics/events related to public relations and advertising practices.

#### **CMN 598 SPECIAL TOPICS IN CORPORATE COMMUNICATION**

This course addresses additional topics in corporate communication. Such offerings have included: Organizational assimilation - the process through which newcomers in organizations become enculturated; Power and resistance in Organizations - which explores the use and abuse of power in organizations as well as the tactics individuals use to resist dominant power structures; and Communication and Customer Service.

#### **CMN 599 FINAL PROJECT/THESIS RESEARCH**

Four credit hours.

#### **CMN 602 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research.

Non-credit. \$40.00 per quarter.

## **COMPUTER, INFORMATION AND NETWORK SECURITY**

### **CNS 594 COMPUTER INFORMATION AND NETWORK SECURITY CAPSTONE**

Design, setup and configuration of realistic enterprise computing and networking environments. Securing the infrastructure and integration of different services and technology in efficient, secured and redundant manners. Technologies will include: open-source and commercial products, firewalls, Virtual Private Networks (VPNs), authentication systems, Intrusion Detection Systems (IDS), advanced routing mechanisms (OSPF, BGP, IS-IS), highly redundant and robust networking.

PREREQUISITE(S): TDC 572 required; IS 572 recommended

## **COMPOSITION (MUSIC)**

### **COM 415 COMPOSITION**

The study of advanced compositional issues at the graduate level which will culminate in a final composition project.

### **COM 421 SEMINAR IN COMPOSITION**

### **COM 441 COMPOSITION I**

(4 credits) This course series will focus on advanced compositional issues at the graduate level and culminate in a final composition project.

### **COM 442 COMPOSITION II**

(4 credits) This course series will focus on advanced compositional issues at the graduate level and culminate in a final composition project.

### **COM 443 COMPOSITION III**

(4 credits) This course series will focus on advanced compositional issues at the graduate level and culminate in a final composition project.

### **COM 444 PROBLEMS, PROCEDURES AND TECHNIQUES IN THE PERFORMANCE OF NEW MUSIC**

(4 credits) By means of discussion, performance and notation analysis and, when possible, performance itself, this course will explore the performance challenges of innovative notation and the new complexities of traditional notation as a means of enlarging the student's technical and poetic capacities.

### **COM 445 TWENTIETH CENTURY MUSIC TOPICS**

(4 credits) (Preferably taken after COM 444) The subject matter of this course will change from year to year depending upon faculty availability and student interest. Possible subjects could include, among others: An in-depth study of a 20th-century composer or "school" of composers; a study of 20th-century aesthetics; a study of 20th-century theories; a study of music sociology of the 20th-century; a study of new trends such as multi-media, computer music, etc.

**COM 498 INDEPENDENT STUDY**

**COM 499 THESIS COMPOSITION**

## **CURRICULUM STUDIES**

### **CS 402 NUMBER AND OPERATIONS: BUILDING A FOUNDATION FOR ALGEBRAIC THINKING**

An introduction to developing algebraic thinking in K-5th grade students through the use of numbers and operations. Students will investigate the whole number and rational number systems, the relationships of numbers, and the meaning and relationship of operations. These concepts will be appropriately extended to algebraic reasoning in a collaborative problem-solving environment. Assessing student learning, appropriate use of technology and literature connections are integral components of the course. Exemplary mathematics programs and assessment materials will be used throughout the course.

### **CS 403 GEOMETRY FOR PRIMARY TEACHERS**

An introduction to geometry for teachers in K-5th grade. It will engage students in the construction, description, and analysis of geometric objects. Emphasis throughout will be on careful description, the development of geometric language, informal reasoning, and reflection on learning. Topics will include: angles, triangles (including the Pythagorean theorem), properties of polygons, projections, congruence, similarity, and measurement of length, area, and volume. Exemplary mathematics programs and assessment materials will be used throughout the course. Exemplary mathematics programs and assessment materials will be used throughout the course.

### **CS 404 MATHEMATICAL AND PEDAGOGICAL ISSUES FOR PRIMARY TEACHERS**

This course is designed to help K-5 teachers make more informed and appropriate decisions about curriculum materials and pedagogical strategies, with special emphasis on how choices are related to what we know from research about how children develop mathematical content knowledge. We will examine the historic roots of recommendations for best practices and general theories about child development. Then we will analyse their impact on a variety of curriculum materials for teaching K-5 mathematics including Everyday Mathematics and Trailblazers and consider the theoretical and practical influences of these texts on children's learning of mathematics.

### **CS 408 NUMBER SYSTEMS FOR MIDDLE SCHOOL TEACHERS**

An investigation of topics in number theory and the foundations of the real number system. Content includes: estimation, approximation, and number sense; numeration; number patterns (e.g., square, triangular, oblong, or tetrahedral numbers); prime and composite numbers and divisibility; rational numbers, ratio, and proportion; irrationals, transcendentals, and the construction of the real number system; and countability and orders of infinity.

### **CS 409 QUANTITATIVE REASONING FOR TEACHERS**

In order to interpret and change our physical and social world, it is necessary to understand quantitative reasoning. This course will analyze, critique, and develop quantitative arguments in numerical, graphical, and verbal form. A variety of appropriate technology will be introduced and used throughout the course. Topics will

include: uses of numbers; scaling and measurement; functions and graphs; linear, inversely proportional, and exponential relationships; distributions and their descriptive measures; variability and the normal curve; correlation and causation; probability; and statistical inference. Exemplary materials from curriculum projects will be included.

#### **CS 410 THE PSYCHOLOGY OF LEARNING MATHEMATICS AND SCIENCE**

##### **CS 411 SCIENCE PROCESSES I**

This course will use common, everyday materials to study naturally occurring phenomena. Students will be expected to learn about the processes and content of science by becoming actively involved in doing science. Activities will cover topics in biology, chemistry and physics.

##### **CS 412 SCIENCE PROCESSES II**

A continuation of Science Processes I with the same emphasis on active involvement and the processes of scientific inquiry. Naturally occurring phenomena which are not experienced in everyday living will be the objects of study.

##### **CS 413 GEOMETRY FOR MIDDLE SCHOOL TEACHERS**

This course is an introduction to geometry which will engage students in the construction, description, and analysis of geometric objects. Students will start by building three dimensional objects which will then be used to generate questions and hypotheses. These will lead to more abstract concepts in two as well as in three dimensions. Topics will include: properties of polygons and polyhedra; nets and projections; congruence and similarity; the Pythagorean theorem; perimeter, area, and volume. Emphasis throughout will be on informal reasoning and reflection on learning.

##### **CS 414 ALGEBRAIC MODELING FOR MIDDLE SCHOOL TEACHERS**

This course offers students opportunities to investigate a variety of real-world situations, in collaboration with others, in order to enhance their understanding of algebra. For each situation, students will be expected to use appropriate technology to analyze the situation, develop mathematical models of the situation, check and verify these models and revise them as necessary. Mathematical topics will include: integers and their properties; algebraic expressions, including polynomial, rational, and radical expressions; factoring; linear, quadratic, and absolute value equations and inequalities; functions, coordinate systems, graphs, and rates of change; and the interpretation of graphs and systems of linear equations. Exemplary materials from national curriculum projects and texts (such as Connected Mathematics or Mathematics) will be included as the starting point for investigations.

##### **CS 420 COMPUTERS IN EDUCATION**

An introduction to educational computing for educators and administrators who have no previous computer experience. Students will use e-mail, list serves, discussion groups, and the World Wide Web to learn about technology and how to integrate it into curriculum. The course includes: an overview of hardware and educational software; an introduction to basic concepts in computing and computer usage; and discussion of critical issues in computer usage including the likely social and organizational consequences of the increased use of computers in schools. Hands-on experience with a variety of commonly used hardware and educational software will be provided.

##### **CS 421 COMPUTER PROGRAMMING WITH LOGO**

An introduction to computer programming using Logo, a powerful, yet easy-to-learn language that both adults and children can use to express their ideas. This course covers the programming concepts needed for turtle graphics, including procedure definition, use of variables, file management, structured programming, and tail-

recursion. Extensive hands-on experience will be provided, and classroom applications (especially for students in grades 3 through 8) will be discussed. No previous computer experience is required.

#### **CS 422 INTERMEDIATE LOGO PROGRAMMING**

#### **CS 423 COMPUTER AND CALCULATOR SCIENCE LABS**

This course examines issues critical for integrating technology into mathematics and science classrooms using technology based labs. It will demonstrate how computers and calculators can be used to measure force, light, pressure, temperature, velocity, acceleration, heart rate, pH and a variety of other qualities from the observable world. After learning how to use probes to measure phenomena, participants will then design activities and lesson plans for classroom use. Attention will also be given to using technology to revitalize mathematics and science education. The course is ideal for elementary and secondary teachers looking for meaningful ways to integrate mathematics and science.

#### **CS 424 COMPUTERS AND WRITING**

#### **CS 425 WORKSHOP FOR IN-SERVICE TEACHERS**

Workshop for In-Service Teachers. Topics of particular interest and concern to educators will be presented in a high-involvement seminar format.

#### **CS 430 TEACHING CONSUMER EDUCATION**

#### **CS 445 INTEGRATING ECONOMICS IN THE HIGH SCHOOL CURRICULUM (CROSS LISTED ECO 445)**

#### **CS 447 TEACHING WRITING IN THE ELEMENTARY AND MIDDLE SCHOOL**

This course is designed to provide pre- and in-service teachers with the opportunity to study and reflect upon developmental and instructional aspects of learning and teaching writing in elementary and middle schools. Students should leave with the theoretical and practices knowledge needed to develop a coherent and developmentally appropriate writing curriculum that is an integral part of classroom practices. They will have an opportunity to experience a variety of instructional strategies as they work with elementary and middle school students as they engage themselves in a variety of writing experiences. This course includes discussion and exploration of the uses of technology in the teaching and writing and also addresses the needs of special populations in relation to the development and assessment of written language skills.

#### **CS 450 USING TECHNOLOGY IN MIDDLE SCHOOL MATHEMATICS**

This course is an introduction to the uses of technology-especially computers, calculators, and software-as tools for investigating significant mathematical ideas. The emphasis will be on mathematical discovery and invention in order to enhance students' mathematical intuition and understanding of fundamental mathematical concepts: geometry will be the primary area of investigation, although some topics in number theory and algebra will be included. In addition to engaging in mathematical inquiry, this course will discuss how technology can support the reform of mathematics teaching and will develop a framework for evaluating mathematics software.

#### **CS 451 TEACHING, LEARNING AND ASSESSING MIDDLE SCHOOL MATHEMATICS I**

This course will examine, in an interconnected way, the following themes: 1) how children learn mathematics with conceptual understanding; 2) how to teach

mathematics so that children learn with understanding; 3) how to assess children's mathematical knowledge to inform instruction and determine their growth, and 4) the nature and content of innovative curriculum projects designed to teach mathematics for conceptual understanding. Exemplary curriculum materials will be used throughout.

**CS 452 TEACHING, LEARNING AND ASSESSING MIDDLE SCHOOL MATHEMATICS II**

A continuation of CS 451.

**CS 457 EXAMINING, LEARNING AND TEACHING: MATHEMATICS**

In this seminar, participants construct meaningful connections between personally becoming a learner of mathematics (who can solve problems, reason mathematically, communicate findings and thinking, and make connections) and learning to teach mathematics so that diverse groups of students can develop the same kinds of skills. Through the interplay of analyzing narratives about their own classroom experiences and literature or research about others' experiences, participants will examine the impact of developmental and interpersonal experiences on learning and teaching mathematics.

**CS 458 RESTRUCTURING MATHEMATICS EDUCATION IN SCHOOLS**

This seminar will move teachers beyond their own classrooms and help them to become advocates for reform of mathematics education at the elementary and middle school levels. It will ask them to develop compelling arguments for reform in mathematics education in their schools and position them as persuaders who can negotiate their way around a building. It will involve readings and discussion on school restructuring in general as well as mathematics education in particular. After collecting necessary survival data, identifying support systems, and analyzing existing conditions and power relationships within a particular school, each participant will be expected to develop a comprehensive plan for restructuring mathematics education which confronts these realities. To the extent possible, students, colleagues, parents, and community members should all have input and, where appropriate, sign off on the plan.

**CS 460 LEARNING IN A TECHNOLOGY-SUPPORTED CLASSROOM**

An examination of current theories about instructional technology and of recent literature in the field. Students will become familiar with particular technology appropriate for their areas of interest and will learn to evaluate this software for a variety of instructional purposes. The course includes: frameworks for classifying educational uses of the technology; an analysis of selected research on educational technology; theories and practices of using technology in classrooms; and the advantages and disadvantages of distance learning. Emphasis throughout will be on why and how technology can be used to enhance the learning process. [Assumes a background equivalent to that provided by CS 420].

**CS 470 TEACHERS AS LEADERS**

Develops skills in designing and implementing collaborative and consultative approaches to instruction; enhances skills needed to communicate effectively with other educators, administrators, and parents. Explores shared decision-making, school restructuring, school-based management, and peer coaching and mentoring.

**CS 471 DIVERSITY IN THE CLASSROOM**

Examines issues related to diversity that result when students from diverse socioeconomic, cultural, linguistic, and academic backgrounds are in the same classroom. Explores the impact of inclusion, ESL, bilingual, and bicultural programs on instruction. Emphasis on developing strategies to meet individual student needs within the regular classroom.

**CS 472 ETHICS, CURRICULUM AND SOCIAL CHANGE**

Explores some major issues impacting curriculum, including cultural and socioeconomic factors, legal issues, conflicting values, pressures for assessment, and the push to include technology. Examines the historical development and current state of education in the U.S. as compared to education in other cultures. Emphasis on ways that educators can work as change agents within the competing demands of these forces.

**CS 473 ASSESSMENT**

Explores current theory and practice regarding alternate forms of assessment, including formal, standardized, and informal tests and inventories; selection, evaluation, and interpretation of tests used in educational settings; portfolio assessment, video performances, and presentations; preparation and use of teacher-made tests; evaluating outcomes; and utilizing data to improve instruction. The critical examination of multiple perspectives of assessment theories, policies and practices center around the emphasis on developing strategies to evaluate student progress.

**CS 481 THE STUDY OF TEACHERS AND TEACHING**

A selective survey and analysis of research on teachers and teaching. Particular emphasis will be placed on the assumptions which are built into various forms of research and the effect these assumptions have on how results should be interpreted and used in supervision and curriculum development. Each student will be expected to become familiar with alternative ways of studying teachers and the teaching process in his/her area of expertise. While many school settings will be utilized because of the many studies done in this area, research in non-school settings will be given a good deal of emphasis.

**CS 482 THE HISTORY OF CURRICULUM PRACTICE**

A survey of trends and movements in curriculum practice. Particular emphasis will be placed on the recurrent nature of curriculum practices and the reasons for this. The underlying models of curriculum practice in their historical settings will be considered as possible methods for modern day needs and the assets and liabilities of those models will be used in viewing modern day practices.

**CS 484 MULTIMEDIA MATERIALS PRODUCTION**

This course will analyze the role of multimedia materials in instruction. A variety of media will be explored (including software, the Internet, audio, video, slides and film). Students will be expected to manipulate a variety of images and produce sample materials for critique and analysis. The primary focus will be on enhancing learning in elementary and secondary schools. PREREQUISITE(S): CS 460 or equivalent.

**CS 485 CURRICULUM/PROGRAM EVALUATION**

The role of evaluation in curriculum/program development. Materials and methods for curriculum/program evaluation in schools and organizations. The planning for an evaluation of an ongoing program will be the major project of this course.

**CS 486 PRACTICUM: CONDUCTING CURRICULUM/PROGRAM EVALUATION (PREREQUISITE: CS 485)**

Practicum: Conducting Curriculum/Program Evaluation (prerequisite: Cs 485)

**CS 487 INTRODUCTION TO CURRICULUM DELIBERATION**

An introduction to systematic and collaborative deliberation on curriculum problems. A pattern for deliberation (including situation analysis, problem discrimination and formulation, development of alternative courses of action, and anticipation of

consequences) will be developed and exemplified. This pattern will be contrasted with other descriptions of curriculum planning. Each student will complete a project which describes his/her systematic formulation of a curriculum problem and a plan of action for resolving it.

**CS 488 DESIGNING AND INTERPRETING CURRICULUM**

An examination of the underlying structures of diverse curricula and of the processes by which they are developed and implemented. Principles and methods for organizing subject matter will be analyzed. The translation of subject matter into curriculum will be examined with particular attention to the assumptions about subject matter built into texts and other curricular materials. Students will analyze curriculum guides and materials to uncover their underlying structures and their explicit and implicit assumptions about subject matter.

**CS 489 DEVELOPING CRITICAL AND CREATIVE THINKING**

In this course students will analyze a wide variety of instructional strategies and curriculum models and apply them to their own school settings. Teacher-centered, student-centered, and computer strategies will be introduced which can be applied to a wide range of ability, grade levels, and subject areas. The emphasis will be on models which call upon students to use and thereby develop critical and creative thinking skills, inquiry, independent research skills, problem solving abilities and communication skills.

**CS 501 CURRICULUM THEORIZING: MULTIPLE LENSES**

**CS 580 RESEARCH SEMINAR IN CURRICULUM STUDIES (PREREQUISITE(S): SIX GRAD COURSE INCL SCG 410 OR EQUIVALENT)**

This course is designed to help graduate students in Curriculum Studies through the difficult process of planning, organizing, drafting, and revising their Master's papers. Students will be expected to complete a literature review and to develop a strong proposal for an integrative paper as a prelude to selecting an advisor for their Master's papers. For M.Ed. students only. PREREQUISITE(S): Six graduate courses including SCG 410 or equivalent.

**CS 581 INTERNSHIP: SOLVING OPERATING PROBLEMS**

Cooperatively arranged experiences in a school or community setting on a full or part time basis under the direct supervision of a person with acknowledged expertise in technology in technology. The intern will help to solve problems, resolve operational conflicts, provide hardware and software support, and assist teachers in their efforts to provide meaningful learning experiences for students. PREREQUISITE(S): CS 460 or equivalent and permission of a faculty advisor.

**CS 582 PRACTICUM IN CURRICULUM STUDIES (PREREQUISITE: PERMISSION OF ADVISOR)**

The student is provided directed experiences in decision-making for curriculum, participation and leadership in curriculum committee activities, planning, and management of learning resource centers and other aspects of curriculum development in a variety of educational settings. PREREQUISITE(S): Permission of program advisor.

**CS 583 UTILIZING MICROCOMPUTERS IN CURRICULUM DEVELOPMENT**

**CS 584 PRACTICUM: DEVELOPING COMPUTER BASED CURRICULUM MATERIALS**

**CS 587 PARTICIPANT RESEARCH IN SCHOOLS: MATHEMATICS EDUCATION**

This course will help teachers conduct research in their own school community, thus helping to improve the mathematics teaching and learning in the school. It will focus on doing action/participant research by bringing together the knowledge bases of multicultural education, teaching for diversity, and mathematics education. Each student will be asked to design, develop, conduct and analyze a (potentially collaborative) action research project in his or her own classroom or school and share the analysis of this project with the seminar group. This project, or an extension of it, may subsequently become the student's Master's paper or thesis.

### **CS 588 INDEPENDENT STUDY IN CURRICULUM STUDIES**

### **CS 589 THESIS RESEARCH IN CURRICULUM STUDIES (PREREQUISITE(S): SCG 410 AND APPROVED THESIS PROPOSAL)**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

### **CS 591 CURRICULUM THEORIZING: MULTIPLE LENSES**

This course examines diverse curriculum discourses, historical as well as contemporary, within a broader context of issues related to education and schooling. It is designed to engage students critically in the study of curricular frameworks, their assumptions, values, and implications for education, schooling, teaching and learning. Major topics include frameworks for defining and conceptualizing curriculum and curricular visions; social, political, and historical contexts of curriculum construction; issues of gender, race, class, and the media; and the curriculum as socially constructed and historically contextualized discourse(s) about what is and what should be taught. Particular content areas will be used as examples.

### **CS 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter.

### **CS 601 WORKSHOP: ALTERNATIVE APPROACHES TO EARLY CHILDHOOD EDUCATION**

### **CS 606 REVIEW OF LITERATURE**

Review of Literature. This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searchig data bases. (See the student handbook for additional information about completing Master's papers.)

### **CS 607 INTEGRATIVE PAPER**

Integrative Paper. Non-credit. Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. (See the student handbook for additional information about completing Master's papers.)

### **CS 613 NEGOTIATING CURRICULUM IN THE CLASSROOM**

#### **CS 704 CURRICULUM DISCOURSES/PERSPECTIVES OVER TIME**

This course focuses on the examination of the ways in which curriculum as a field has developed over time: attention to changes in terms of how it has been defined, conceptualized; theoretical and philosophical issues; assumptions and values; as well as implications for teaching and learning. These topics will be addressed within different historical and social contexts. Readings will include primary texts by major theorists as well as secondary material including commentary and critique. A primary goal of the course is to provide students with an overview of major movements in curriculum history as a foundation for further study. This course will serve as a prerequisite for all other curriculum courses in the doctoral program.

#### **CS 751 CURRICULUM FOR HUMAN AND COMMUNITY DEVELOPMENT**

This course examines theories and practices aimed at: (a) fostering personal integrity and meaningful learning in each individual; (b) promoting productive communications and relations between diverse individuals and communities; (c) constructing environments that are responsive to human needs at the individual, dyadic, group, and systemic levels, and (d) transforming social contexts in ways that promote a greater sense of equity and justice. Topics covered include: the influence of culture, context and experience on interaction patterns, interactions between human and community development, organizational climate, and communication processes such as community building, conflict resolution, and negotiation. Students will engage in self-reflection, story telling, narrative interpretation, and an analysis of instructional and communication processes aimed at promoting individual and community development within and across social organizations. Curriculum programs -- such as those developed from the ideas of James Comer, Seymour Sarason, or John Goodlad -- will be studied as case examples of the impact that fostering development and communication can have on building a learning community.

#### **CS 754 CURRICULUM THEORIZING: MULTIPLE LENSES**

Curriculum Theorizing: Multiple Lenses. This course examines diverse curriculum discourses, historical as well as contemporary, within a broader context of issues related to education and schooling. It is designed to engage students critically in the study of curricular frameworks, their assumptions, values, and implications for education, schooling, teaching and learning. Major topics include: frameworks for defining and conceptualizing curriculum and curricular visions; social, political, and historical contexts of curriculum construction; issues of gender, race, class ableness, and the media; the curriculum as socially constructed, and historically contextualized discourse(s) about what is and what should be taught. Particular content areas will be used as examples.

#### **CS 761 ASSESSING SCHOOL CURRICULUM**

This course develops a framework for assessing the content, characteristics, and outcomes of the curriculum in a school. The framework will include the collection, organization and analysis of both quantitative and qualitative measures of effective instruction. Particular attention will be given to local, state, and national standards for content, teaching and outcomes. Attention will also be given to the qualities of the lived experiences of students in school and thus to the unintended as well as intended outcomes of schooling. Each student will be expected to begin assessing the curriculum in his or her school and to outline a proposal for a more complete assessment of the school's curriculum.

#### **CS 764 YOUTH DEVELOPMENT, IDEOLOGY, CULTURE, AND SOCIETY**

This course examines the ideological significance of "youth" in societies characterized by structural inequalities of power based on class, race, ethnic capability, sexual and/or

gender relations of domination and subordination. Texts from a range of academic disciplines -- psychology, sociology, cultural studies, social work -- will be studied to show the influence these texts have had in shaping discourse about youth and youth development. The concept of 'youth' will be looked at as a system of statements that produce arguments about young people and that, through these arguments, represent young people as deviant, deficient, perverted or resistant. These metaphors for dealing with crisis in society will be critically analyzed. The course will aim at critical self reflection; students will be challenged to examine their own assumptions about youth.

#### **CS 774 ENGAGING IN CURRICULUM DELIBERATION**

This course engages students in systematic and collaborative deliberation on curriculum problems. A pattern for deliberation -- including situation analysis, problem discrimination and formulation, development of alternative courses of action, and anticipation of consequences -- will be developed, exemplified, and contrasted with other descriptions of curriculum development. The importance and role of alternative conceptions of learners, of situation, and of knowledge structures within disciplines will be emphasized. After engaging in stimulated deliberations, each student will be asked to examine the intellectual commitments underlying this approach to curriculum change, to reconsider his or her role as a curriculum leader in a school or other educational setting, and to develop realistic plans for engaging a particular school community in collaborative curriculum deliberation.

#### **CS 784 CURRICULUM AND PROGRAM DESIGN**

This course studies principles underlying the design of effective, coherent, and comprehensive instructional programs. Topics include: the design and organization of core courses of study and related curricular components; the associated staff development program; and alignment with local, state, and national mandates. Particular attention will be given to planning for diversity, including differences in learning styles, special needs, culture and language.

#### **CS 794 SPECIAL TOPICS IN CURRICULUM**

In order to assure that the program remains flexible, responsive to the needs of students, and inclusive of the areas of interest of both faculty and students, this variable topics course will provide an opportunity for critical examination of compelling topical issues related to education. Topics could include: issues in educational reform; special education; controversies in curricular discourse; current issues such as the education of homeless children; or legal and constitutional issues in education and schooling. The course will be conducted in a seminar format.

#### **CS 859 INDEPENDENT DISSERTATION RESEARCH: CURRICULUM STUDIES**

### **COMPUTER SCIENCE**

#### **CSC 396 PROGRAMMING IN JAVA I AND II (AVAILABLE TO GRADUATE STUDENTS ONLY)**

An intensive eight-credit-hour course in Java programming. Covers the same material as CSC 211 and CSC 212 together, with two class meetings each week.  
PREREQUISITE(S): Graduate standing required.

#### **CSC 410 PRINCIPLES OF COMPUTER SCIENCE**

PREREQUISITE: CSC 225

**CSC 411 COMPUTERS IN INFORMATION SYSTEMS AND TELECOMMUNICATIONS (SEE 98411, 9/95)**

**CSC 415 FOUNDATIONS OF COMPUTER SCIENCE**

Propositional logic, predicate logic, mathematical proofs and reasoning, induction, basic algorithms and asymptotic analysis, recurrence relations, basic graph theory and graph algorithms

**CSC 416 FOUNDATIONS OF COMPUTER SCIENCE II**

Implementation of data structures, including linked lists, stacks, queues, trees, balanced trees, hash tables, and graphs. Finite-state automata and grammars.

PREREQUISITE(S): CSC 212 and CSC 415.

**CSC 417 FOUNDATIONS OF COMPUTER SCIENCE III**

Hash table data model; self-balancing trees; set data model; regular expressions; context-free grammars; finite state automata. (PREREQUISITE(S):CSC 416).

**CSC 420 DISCRETE STRUCTURES**

PREREQUISITE: MAT 140

**CSC 423 DATA ANALYSIS AND REGRESSION**

Multiple regression and correlation, residual analysis, analysis of variance, and robustness. These topics will be studied from a data analytic perspective, supported by an investigation of available statistical software. PREREQUISITE(S): CSC 323 or consent of instructor.

**CSC 424 ADVANCED DATA ANALYSIS**

Topics chosen from among discriminant analysis, principal components analysis, factor analysis, and non-parametric statistics. PREREQUISITE(S): CSC 423 or consent of instructor.

**CSC 426 VALUES AND COMPUTER TECHNOLOGY**

The impact of computerized technologies on society with particular attention paid to the ethical issues raised by these social effects. The course will require all of Ph.D. students research leading to a paper of publishable quality. Techniques for this type of research and writing will be discussed. An oral presentation of the research of that paper will also be required. PREREQUISITE(S): Ph.D. status or consent of instructor.

**CSC 427 SOFTWARE QUALITY**

**CSC 428 DATA ANALYSIS FOR EXPERIMENTERS**

The analysis of experiments in the computing science with special emphasis on the use of statistical software and interpretation of generated output. PREREQUISITE(S): CSC 423.

**CSC 430 OBJECT ORIENTED MODELING**

**CSC 431 FORMAL SOFTWARE SPECIFICATION AND DEVELOPMENT I**

**CSC 440 CRYPTOLOGY**

Introduction to the methods of cryptography and cryptanalysis. Topics include classical cryptography (codes, monoalphabetic and polyalphabetic substitution ciphers, transposition ciphers), modern block ciphers (such as DES, AES), and public key

cryptography (such as RSA). Optional topics include zero-knowledge protocols, information theory, coding theory, error-correcting codes, steganography, stream ciphers, hashing algorithms, quantum cryptography, elliptic curve cryptography, and history. PREREQUISITE(S): CSC 211 and CSC 415

#### **CSC 442 DATA STRUCTURES**

PREREQUISITE: CSC 410

#### **CSC 444 AUTOMATA THEORY AND FORMAL GRAMMARS**

An introduction to the most important abstract models of computation and their applications: finite state machines and pushdown automata. Explores the relationship between regular expressions and formal expressions and automata. PREREQUISITE(S): CSC 415.

#### **CSC 445 COMPUTER ARCHITECTURE**

PREREQUISITE: CSC 345; 420 Recommended

#### **CSC 446 COMPUTER OPERATING SYSTEM**

#### **CSC 447 CONCEPTS OF PROGRAMMING LANGUAGES**

Formal methods of syntactic specification of programming languages. Various semantic aspects of modern programming languages: scoping, binding, and parameter passing. Modularity and abstraction mechanisms of modern programming languages. Typing and polymorphism. Exception handling and concurrency. Declarative programming languages. Comparison of modern programming languages and paradigms. PREREQUISITE(S): CSC 416.

#### **CSC 448 COMPILER DESIGN**

Design and structure of high level languages. Lexical scan, top down and bottom up syntactic analysis. Syntax directed translation and LR(k) grammars. PREREQUISITE(S): CSC 447 or consent.

#### **CSC 449 DATABASE TECHNOLOGIES**

This is a graduate course in databases that introduces the principals and issues in database design and implementation. Topics covered include: conceptual database modeling, logical designs using the relational database model, relational algebra, implementation techniques using query languages, functional dependencies, normalization, and physical design and indexing structures. PREREQUISITE(S): CSC 415 or CSC 212 or CSC 224.

#### **CSC 451 DATABASE DESIGN**

Design methodologies. Requirement formulation and analysis, conceptual design, implementation design, physical design. Emphasis will be on data modeling techniques. Class team projects include the design of a complete database structure and implementation of design tools. PREREQUISITE(S): Graduate Standing.

#### **CSC 452 DATABASE PROGRAMMING**

Programming in large-scale relational database environment using host languages. Design and implementation of on-line applications. Topics covered in this course include: database programming using open architectures, embedded query languages, dynamic query language, procedural extension of query languages, stored procedures, transaction management, and introduction to extensible markup data definition and retrieval languages. PREREQUISITE(S): CSC 449 and (CSC 212 or CSC 224).

**CSC 453 CLIENT/SERVER DATABASE APPLICATION DEVELOPMENT**

This course covers the following topics: differences between call level interfaces and embedded SQL, layered architecture of the environments (driver managers, drivers, configuration of data sources), how the architecture of the API s achieve database independence, categories of API functions (e.g., metadata, data manipulation and transaction management). Students will develop database applications in a client/server environment by using Visual Basic and ODBC as well as Java and JDBC. PREREQUISITE(S):CSC 449 and CSC 260.

**CSC 454 DATABASE ADMINISTRATION AND MANAGEMENT**

This course is designed to give students a comprehensive foundation in database administration and management. The course provides a conceptual understanding of the database architecture and how its components work and interact with one another. Topics covered in this course include: database architecture, capacity planning, installation and maintenance, network configuration, security management, utilities and tools, industry standards and guidelines, database management techniques and practices. PREREQUISITE(S): CSC 449.

**CSC 455 SOFTWARE DEVELOPMENT MODELS****CSC 456 FOUNDATIONS OF INTELLIGENT DATABASES**

An introduction to the use of logic and deduction in databases and artificial intelligence. Topics will include propositional logic, first order predicate calculus, resolution theorem proving, deductive retrieval and deductive databases, inference engines, logic programming, and truth maintenance systems. PREREQUISITE(S): CSC 415.

**CSC 457 EXPERT SYSTEMS**

A detailed study of the development of artificial intelligence-based expert systems applications. Students will use commercial expert systems packages to develop example applications programs. Topics will include frames and other knowledge-representation techniques, rule-based and case-based systems, inference, and model-based reasoning. PREREQUISITE(S): CSC 211 and 212 (or 224).

**CSC 458 SYMBOLIC PROGRAMMING**

Basic concepts of symbolic programming as embodied in the language LISP. Techniques for prototyping and building conceptually advanced systems in an environment that encourages procedural and data abstraction. Topics include basic programming techniques, symbolic expressions, recursion, advanced data and control structures, object-oriented programming in CLOS, and symbolic control of TCP/IP connections, MIDI sequencing, text-to-speech, and speech recognition. Assignments will focus on basic AI techniques, but the class is intended for anyone who will need to rapidly develop large complex systems. PREREQUISITE(S): CSC 211 and 212 (or 224).

**CSC 459 FILE MANAGEMENT AND ORGANIZATION**

PREREQUISITE: CSC 446

**CSC 460 TOPICS IN OPERATING SYSTEMS**

PREREQUISITE: CSC 446.

**CSC 465 SOFTWARE ENGINEERING I****CSC 466 SOFTWARE ENGINEERING II****CSC 467 SOFTWARE RELIABILITY**

**CSC 468 SOFTWARE MEASUREMENT**

**CSC 472 METAMATHEMATICS, LOGICAL DEDUCTION AND COMPUTERS**

**CSC 473 INFORMATION SYSTEMS FOR MANAGEMENT**

PREREQUISITE: CSC 203

**CSC 474 DECISION SUPPORT SYSTEMS**

**CSC 475 INFORMATION SYSTEMS ANALYSIS AND DESIGN**

**CSC 477 SOFTWARE AND SYSTEMS PROJECT MANAGEMENT**

**CSC 480 FOUNDATIONS OF ARTIFICIAL INTELLIGENCE**

This course will provide an in-depth survey of important concepts, problems, and techniques in artificial intelligence. A particular focus and a unifying theme in the course will be the concept of "intelligent agents." No previous knowledge of AI is necessary to take the course. The course is particularly suitable for graduate and advanced undergraduate students who want to gain the technical background necessary to build intelligent systems, or as a preparation for more advanced work in AI. The concepts and techniques learned in this course will be directly applicable to many other areas of computing sciences, including software design, distributed systems, databases, and information management and retrieval. PREREQUISITE(S): CSC 415 and 416.

**CSC 481 INTRODUCTION TO IMAGE PROCESSING**

The course is a prerequisite for more advanced Visual Computing (VC) courses and the students will be challenged to implement VC algorithms for real world applications. The topics covered in the course include: components of an image processing system and its applications, elements of visual perception, sampling and quantization, image enhancement by histogram equalization, color spaces and transformations, introduction to segmentation (Edge detection), and morphological image processing. PREREQUISITE(S): CSC415 or Calculus or Linear Algebra.

**CSC 482 APPLIED IMAGE ANALYSIS**

The course is meant to provide students with the basic techniques of image analysis and understanding required for the medical domain, military domain, new and emerging domains, and other fields of interest to the students. The topics covered in the course include: imaging modalities, 2D & 3D imaging, 2D & time-sequenced images, archiving, accessing and transmitting large images, optic flow, increased visual discrimination, segmentation, registration, diagnosis, feature extraction, and image visualization. PREREQUISITE(S): CSC 481.

**CSC 483 INFORMATION PROCESSING MANAGEMENT**

**CSC 484 INTRODUCTION TO COMPUTER VISION**

Edge detection. Image representation and description using low-level features. A sample of image segmentation techniques. Perceptual grouping. 2D shape representation and classification. Motion analysis and tracking. Prerequisites: CSC 481.

**CSC 485 NUMERICAL ANALYSIS**

Use of a digital computer for numerical computation. Error analysis, Gaussian elimination and Gauss-Seidel method, solution of nonlinear equations, function evaluation, approximation of integrals and derivatives, Monte Carlo methods.

PREREQUISITE(S): MAT 220 and a programming course.

**CSC 486 ADVANCED NUMERICAL ANALYSIS**

Theory and algorithms for efficient computation, including the Fast Fourier Transform. Numerical solution of nonlinear systems of equations. Minimization of functions of several variables. Sparse systems of equations and corresponding eigenvalue problems. PREREQUISITE(S): CSC 485.

**CSC 487 OPERATIONS RESEARCH I: LINEAR PROGRAMMING**

Linear Programming. The Linear Programming problem and its dual; the simplex method; transportation and warehouse problems; computer algorithms and applications to various fields. PREREQUISITE(S): MAT 220 and any introductory programming course.

**CSC 488 OPERATIONS RESEARCH II: OPTIMIZATION THEORY**

Optimization Theory. Integer programming; nonlinear programming; dynamic programming; game theory. PREREQUISITE(S): CSC 487.

**CSC 489 THEORY OF COMPUTATION**

Advanced topics in the mathematical foundations of computation. Topics may include random access and Turing machines, recursive functions, algorithms, computability and computational complexity, intractable problems, NP-complete problems. PREREQUISITE(S): CSC 444 or CSC 491.

**CSC 491 DESIGN AND ANALYSIS OF ALGORITHMS**

Methods of designing algorithms including divide-and-conquer, the greedy method, dynamic programming, backtracking, and NP-completeness and approximation algorithms. Emphasis on efficiency issues. PREREQUISITE(S): CSC 416.

**CSC 494 SOFTWARE METHODOLOGIES**

PREREQUISITE: CSC 465

**CSC 495 COMPUTER LOGIC DESIGN**

CROSS-LISTED AS CSC 395

**CSC 496 MICROPROCESSORS**

An introduction to the hardware and software aspects of microprocessors. Digital electronics, microprocessors, programming, interfacing. Laboratory work will involve hands-on work with microprocessor systems.

**CSC 497 INFORMATION THEORY**

An introduction to the basic concepts of information theory and coding theory. Measure of information, the fundamental theorem, Hamming, BCH, and other cyclic codes.

**CSC 498 DIGITAL SIGNAL PROCESSING**

Elements of circuit and signal theory, theory of modulation, mathematical basis of sampling and coding, principles of digital filtering. Applications to communications, process control, image and voice recognition, voice synthesis.

**CSC 502 GENETIC ALGORITHMS**

The basics of genetic algorithms, the schema theory of John Holland, advanced operators and genetic search, as well as applications, eg. genetic-based machine learning, parsing, expert system, etc. Students will work on a variety of projects based on the applications discussed in class. PREREQUISITE(S): CSC 491.

**CSC 503 PARALLEL ALGORITHMS**

Development, implementation, and applications of parallel algorithms. Models of parallel computation. Parallel sorting, searching and graph algorithms, as well as other parallel algorithms, will be studied and implemented on both simulated and actual parallel machines. PREREQUISITE(S): CSC 491.

**CSC 504 PARALLEL PROCESSING**

Specific multiprocessor architectures and how to implement various algorithms on each machine. Students will implement a fairly large project on a multiprocessor. The course will also introduce some compilation techniques, for a better understanding of the issues. PREREQUISITE(S): CSC 491.

**CSC 510 INTRODUCTION TO SYSTEMS PROGRAMMING**

PREREQUISITE: CSC 445, 446 Or Consent

**CSC 520 ADVANCED TOPICS IN DISCRETE STRUCTURES**

PREREQUISITE: CSC 420

**CSC 521 MONTE CARLO SIMULATIONS: ALGORITHMS AND APPLICATIONS**

CSC 521 is graduate level course about the use of random numbers in simulations. The course introduces the concepts of pseudo-random number generators, Monte Carlo techniques, Bootstrap errors and the Metropolis algorithm. The subject is explained through examples in a variety of fields including computer science, telecommunications, graphics, physics, bioinformatics and finance. The different problems are formulated in computational terms in a way accessible to students with different backgrounds. The course emphasizes similarities among the different examples rather than their differences. Examples include: network reliability, rendering, protein folding, option pricing, and criticality of nuclear reactors. This is a programming course. It requires knowledge of calculus, elementary statistics, and good programming skills in Java and/or C++. Prerequisites: CSC 323, CSC 212 or instructor's permission. CSC 415 is suggested but not required

**CSC 533 SOFTWARE VALIDATION AND VERIFICATION****CSC 535 FORMAL SEMANTICS OF PROGRAMMING LANGUAGES**

Methods of formal semantics. Lambda-calculus. Lattices and domains. Reflexive domains. Formal semantics of the lambda-calculus. Languages with state. Interpretation functions. Expressions and environments. Command and stores. Control structures and continuations. PREREQUISITE(S): CSC 447.

**CSC 536 MODELING FOR COMPUTER AIDED DESIGN**

Review of Bezier curves. Splines. NURBS. Catmull-Rom splines. Integer and adaptive methods of curve generation. Surfaces. User interface considerations for CAD systems. GIS support issues. PREREQUISITE(S): CSC 469.

**CSC 538 VISION SYSTEMS**

A survey of working vision systems such as bar code readers, handwriting readers, robotic navigation systems, target acquisition and tracking systems. PREREQUISITE(S): CSC 481 or CSC 584.

**CSC 545 ADVANCED COMPUTER ORGANIZATION**

Parallel, array and pipeline processors and other topics of current interest. PREREQUISITE(S): CSC 345.

**CSC 546 OPERATING SYSTEMS DESIGN**

A project/seminar oriented course examining the details of the design of operating systems. The ideas from CSC 446 will be extended and incorporated into the design details. PREREQUISITE(S): CSC 343.

**CSC 547 ADVANCED TOPICS IN PROGRAM LANGUAGES**

A project-based course on advanced topics related to programming languages and programming environments. The course does not have any formal exams or homework assignments, but participants are expected to read papers on current research, actively participate in discussions, and complete a significant course project. PREREQUISITE(S): Permission of the instructor.

**CSC 548 ADVANCED COMPILER DESIGN**

Emphasis on practical problems in implementing compilers, data flow analysis, code optimization, error analysis. Discussion of compiler generators. As a class project, students will write a compiler. PREREQUISITE(S): CSC 448.

**CSC 549 DATABASE SYSTEM IMPLEMENTATION**

This is an advanced database course that covers issues in DBMS implementation. Topics covered in this course include: physical data organizations, indexing and hashing, query processing and optimization, database recovery techniques, transaction management, concurrency control, and security. PREREQUISITE(S): CSC 449.

**CSC 550 OBJECT-ORIENTED DATABASES**

Introduction to object-oriented concepts: abstract data typing, inheritance, object identity. Architecture, modeling and design for object-oriented databases. Query languages, integrity, long-duration transactions, concurrency, recovery and versioning in object-oriented databases. Brief survey of commercial and research prototypes of object-oriented database management systems. PREREQUISITE(S): CSC 449.

**CSC 551 DISTRIBUTED DATABASE SYSTEMS**

Distributed database architecture, distributed database design, distributed query processing, query decomposition and optimization of distributed queries, distributed transaction management and concurrency control, distributed DBMS reliability, distributed database operating systems. Distributed multidatabase systems. Client/Server database systems. PREREQUISITE(S): CSC 449 and (DS 420 or DS 425 or TDC 425 or TDC 463).

**CSC 553 ADVANCED DATABASE CONCEPTS**

An introduction to advanced selected topics in databases. The topics include: intelligent and deductive databases, temporal databases, multimedia databases, spatial and geographic databases, fuzzy databases, mobile databases, data mining and data warehousing, as well as emerging issues and concepts in database design, implementation and management. PREREQUISITE(S): CSC 449.

**CSC 554 INFORMATION ENGINEERING****CSC 556 FOUNDATIONS OF ARTIFICIAL INTELLIGENCE**

A survey of the fundamental techniques used in artificial intelligence. Heuristic search, game playing, means-ends analysis and classical planning, constraint propagation, natural language understanding, and systems that learn. An introduction to intelligent interfaces, intelligent agents, and modeling human cognition with AI systems. PREREQUISITE(S): CSC 311 or CSC 416.

**CSC 560 ON-LINE SYSTEMS AND TELECOMMUNICATIONS**

PREREQUISITE: CSC 446 (cross-Listed: CSC 360)

**CSC 571 SOFTWARE MAINTENANCE****CSC 577 MANAGEMENT OF INFORMATION TECHNOLOGY****CSC 578 NEURAL NETWORKS AND MACHINE LEARNING**

A study of the basic structure of neural networks and how machines may learn. This will include analyses of decision trees, Bayesian learning, genetic algorithms, PAC, analytical and reinforcement learning. Neural networks to be studied include Hopfield, backpropagation, Kohonen, ART, and Neuro-Fuzzy. Students will explore current applications and design several learning systems. No prior background in artificial intelligence is assumed. PREREQUISITE(S): MAT 220 or MAT 262 or MAT 151.

**CSC 579 NEURAL NETWORKS II**

Advanced Neural Network Architectures: Kohonen Networks, Counter Propagation Networks, Bi-Directional Associative Memories As Well As Art1 And Art2 Networks. Professional Neural Network Development Tools Will Be Used Throughout The Course. There Will Be A Project. (prereq) Csc 578 And Mat 150, 151 Or 145.

**CSC 580 ARTIFICIAL INTELLIGENCE PROGRAMMING**

System Implementation, Using The Powerful Procedures And Structures Of Modern Ai Such As: Slot And Filler Databases, Unification Pattern Matching, Heuristic Search, Deductive Information Retrieval, Procedures As Data, Case-Based Reasoning, Natural Language Understanding, Logic Programming, Discrete Networks, And Constraint Satisfaction. (prereq) Csc 458.

**CSC 582 MACHINE LEARNING**

An introduction to computer systems that learn. Classification methods, decision-tree induction methods, learning concepts from examples, learning heuristics, learning by analogy, explanation-based and case-based learning. Cognitive models. PREREQUISITE(S):CSC 456.

**CSC 583 NATURAL LANGUAGE PROCESSING**

Introduction to computer understanding of natural (human) languages. Topics include knowledge representation, syntactic analysis and grammars, parsing, semantic interpretation, discourse analysis, text generation, and machine translation. An overview of several existing natural language processing systems. PREREQUISITE(S): CSC 418.

**CSC 584 COMPUTER VISION**

Advanced image segmentation techniques. 2D and 3D shape representation and description. 3D shape reconstruction from single 2D images. Structure reconstruction from multiple views (stereo and motion). Model-based object recognition. Knowledge-based image understanding. Prerequisites: CSC 484.

**CSC 585 KNOWLEDGE REPRESENTATION**

Techniques for symbolic representation of knowledge in artificial intelligence and knowledge-based systems. Topics will include propositional logic, predicated calculus, nonmonotonic logics, semantic networks and frames, conceptual dependencies and scripts, truth maintenance systems, and qualitative reasoning. PREREQUISITE(S): CSC 456.

**CSC 586 ADVANCED ARTIFICIAL INTELLIGENCE PROGRAMMING**

prerequisite: 580

**CSC 587 COGNITIVE SCIENCE**

A study of the relationships between our knowledge of human and computer intelligence. Levels of analysis of intelligent system, examples of cognitive models, and exposure to current publications, with an emphasis on those related to human computer interaction. Students will participate in the design and testing of models of human intelligence, both experimentally and using computer models.

PREREQUISITE(S): CSC 416 or HCI 460 or consent of instructor.

**CSC 588 KNOWLEDGE REPRESENTATION II**

prerequisite: CSC 585

**CSC 589 TOPICS IN DATABASE**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**CSC 590 TOPICS IN USER INTERFACES**

This is an independent study course. May be repeated for credit. PREREQUISITE(S): Completion of the corresponding visual computing core sequence or consent of instructor.

**CSC 591 TOPICS IN ALGORITHMS**

An in-depth discussion of one or more of the following topics: algorithms for integer operations, polynomial arithmetic including applications of the fast Fourier transform, matrix operations, pattern matching algorithms, proving lower bounds on the complexity of algorithms, parallel algorithms, approximation algorithms.

PREREQUISITE(S): CSC 491.

**CSC 592 TOPICS IN COMPUTER VISION AND PATTERN RECOGNITION**

This is an independent study course. May be repeated for credit. PREREQUISITE(S): Completion of the corresponding visual computing core sequence or consent of instructor.

**CSC 594 TOPICS IN ARTIFICIAL INTELLIGENCE**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**CSC 598 TOPICS IN DATA ANALYSIS**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**CSC 599 TOPICS IN COMPUTER SCIENCE**

Independent study form required. PREREQUISITE(S): Consent of instructor.

**CSC 601 MASTER'S RESEARCH CONTINUATION**

Non-credit. This course is intended for master's degree students who have completed all course registration requirements and who are regularly using the facilities of the University for study and research, thesis or project completion. These students are required to be registered in this course each quarter of the academic year until all requirements have been completed. PREREQUISITE(S): Completion of required courses. Independent Study form required.

**CSC 610 COMPUTER SCIENCE I**

An introduction to structured programming using PASCAL. Topics include: elementary data types, program control structures, character strings, array processing, procedures

and functions, and an introduction to user-defined data types.

**CSC 611 PROGRAMMING IN JAVA I**

Introduction to object-oriented programming using Java. Topics include variables, data types, control structures, arrays, method invocation and parameter passing, predefined classes and programmer-defined classes. Introduction to Java interfaced and inheritance. Simple graphical user interfaces, events, and listeners.

**CSC 615 INTRODUCTION TO STRUCTURED PROGRAMMING USING C**

(Crosslist 215)(coreq Mat140)

**CSC 621 PROGRAMMING IN JAVA I**

Introduction to object-oriented programming using Java. Topics include variables, data types, control structures, arrays, method invocation and parameter passing, predefined classes and programmer-defined classes. Introduction to Java interfaces and inheritance. Simple graphical user interfaces, events, and listeners.

**CSC 622 PROGRAMMING IN JAVA II**

Intermediate object-oriented programming using Java. Implementation of programmer-defined classes including stacks and queues. Java collection classes. Introduction to class diagrams. Exception handling. Simple network programming including applets, JDBC, and URL access. PREREQUISITE(S): CSC 611

**CSC 624 JAVA FOR PROGRAMMERS**

Object-oriented programming in Java. Simple graphical user interfaces, events, and listeners. Implementation of programmer-defined classes including stacks and queues. Java collection classes. Introduction to class diagrams. Exception handling. Simple network programming including applets, JDBC, and URL access. PREREQUISITE(S): Experience in at least one high-level programming language

**CSC 630 COMPUTERS IN EDUCATION**

An introduction to computers in education. A survey of software and hardware available for educational purposes. Hands-on experience with microcomputers. How to evaluate educational software.

**CSC 640 TEACHING COMPUTER SCIENCE**

This course guides students to identify, evaluate and assimilate pedagogical techniques (instruction and assessment) to teach Computer Science (CS), with particular attention to various implementations of cooperative learning strategies. Students develop, evaluate, critique and deliver a learning unit on fundamental aspects of CS. Students learn how to structure, teach and assess an Advanced Placement CS course according to the current guidelines of the College Board. They also learn to identify, locate and evaluate various resources (publications, web resources, dedicated software, and professional societies) that enrich their role as educators. Throughout the course attention is given to the diversity of learning styles and special needs of students within the CS curriculum. N.B. For students enrolled in the Teaching and Learning Graduate program offered by the School of Education (SOE), and for students seeking certification for grades 9-12 or 5-12, this course requires 35 clinical hours of type II in a local high school according to the specification of the SOE Student Handbook. PREREQUISITE(S): CSC 313 or CSC 416 or instructor permission.

**CSC 670 COMPUTER-ASSISTED INSTRUCTION**

Study and analysis of the use of the computer as an aid in instruction. Use of CAI languages such as PILOT. PREREQUISITE(S): CSC 630.

**CSC 671 QUANTITATIVE COMPUTING WORKSHOP**

Quantitative computing background needed for graduate study complemented with application to useful problems using appropriate software tools.

**CSC 672 DATA ANALYSIS WORKSHOP**

Statistical background needed for graduate study complemented with experience in data analysis using SAS. PREREQUISITE(S): CSC 671 or equivalent.

**CSC 680 PROGRAMMING WITH LOGO**

An introduction to LOGO, a powerful yet easy-to-learn language that both adults and children can use to express ideas.

**CSC 690 RESEARCH SEMINAR**

Readings and discussion on current research topics. PREREQUISITE(S): Consent of the instructor.

**CSC 696 MASTER'S PROJECT**

(4 credit hours) Students may register for this course only after their advisor has approved a written proposal for their project. PREREQUISITE(S): Consent of advisor. Independent study form required.

**CSC 697 GRADUATE INTERNSHIP**

In cooperation with local employers, the graduate program offers students the opportunity to integrate their academic experience with on-the-job training in computer related work areas. This course is offered for one credit and admission to the program requires consent of a Student Services Advisor. International students may complete curricular practical training through this class.

**CSC 698 MASTER'S THESIS**

(2 credit hours) Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. PREREQUISITE(S): Consent of advisor.

**CSC 699 RESEARCH**

PREREQUISITE(S): One to 12 hours per quarter. A total of 12 hours is required.

**CSC 701 RESIDENT CANDIDACY CONTINUATION**

Non-credit. Students admitted to candidacy for the doctoral degree who have completed all course and dissertation registration requirements and who are regularly using the facilities of the University for study and research are required to be registered each quarter of the academic year until the dissertation and final examination have been completed. PREREQUISITE(S): Admission to Candidacy. Independent Study form required.

**CSC 702 NON-RESIDENT CANDIDACY CONTINUATION  
(PREREQUISITE:ADMISSION TO CANDIDACY)**

Non-credit. This registration provides for doctoral candidates who have been admitted to candidacy who are not in residence and need only occasional use of University facilities, including the libraries. PREREQUISITE(S): Admission to Candidacy. Independent Study form required.

## **DESIGN**

### **DES 530 MFA I SPEECH**

### **DES 541 PRINCIPLES OF DESIGN FOR DIRECTORS**

### **DES 542 PRINCIPLES OF DESIGN FOR DIRECTORS**

### **DES 543 PRINCIPLES OF DESIGN FOR DIRECTORS**

### **DES 571 DESIGN PRODUCTION PRACTICE: GRADUATE I**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, construction, and running. (prereq)

### **DES 572 DESIGN PRODUCTION PRACTICE: GRADUATE I**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, construction, and running. (prereq)

### **DES 573 DESIGN PRODUCTION PRACTICE: GRADUATE I**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, construction, and running. (prereq)

### **DES 599 INDEPENDENT STUDY**

### **DES 641 THEATRICAL COLLABORATION (PREREQ: OPEN TO 3RD & 4TH YR STUDENTS & MFA STUDENTS)**

Theatrical Collaboration (3 quarter hours) An investigation, through research and discussion, of the conceptual problems of physically mounting specific, assigned scripts from the classic and modern theatre, covering a broad stylistic range. Students will submit proposals for designs and justify their ideas through literary and pictorial research. The directorial and collaborative problems of arriving at a production concept, up to, but not including fully-realized design documentation, is emphasized through a series of projects. PREREQUISITE(S): Open to 3rd and 4th year BFA Lighting, Scenery, Costume Design and Dramaturgy students, in addition to MFA students.

### **DES 642 THEATRICAL COLLABORATION (PREREQ: OPEN TO 3RD & 4TH YEAR STUDENTS AND MFA STUDENTS)**

Theatrical Collaboration (3 quarter hours) An investigation, through research and discussion, of the conceptual problems of physically mounting specific, assigned scripts from the classic and modern theatre, covering a broad stylistic range. Students will submit proposals for designs and justify their ideas through literary and pictorial research. The directorial and collaborative problems of arriving at a production concept, up to, but not including fully-realized design documentation, is emphasized through a series of projects. PREREQUISITE(S): Open to 3rd and 4th year BFA Lighting, Scenery, Costume Design and Dramaturgy students, in addition to MFA students.

### **DES 643 THEATRICAL COLLABORATION (PREREQ: OPEN TO 3RD AND 4TH YEAR STUDENTS AND MFA STUDENTS)**

Theatrical Collaboration (3 quarter hours) An investigation, through research and discussion, of the conceptual problems of physically mounting specific, assigned scripts from the classic and modern theatre, covering a broad stylistic range. Students will submit proposals for designs and justify their ideas through literary and pictorial research. The directorial and collaborative problems of arriving at a production concept, up to, but not including fully-realized design documentation, is emphasized through a series of projects. PREREQUISITE(S): Open to 3rd and 4th year BFA Lighting, Scenery, Costume Design and Dramaturgy students, in addition to MFA students.

**DES 671 DESIGN PRODUCTION PRACTICE: GRADUATE II**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, and running. (prereq)

**DES 672 DESIGN PRODUCTION PRACTICE: GRADUATE II**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, and running. (prereq)

**DES 673 DESIGN PRODUCTION PRACTICE: GRADUATE II**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, and running. (prereq)

**DES 690 INTERNSHIP**

The internship provides the student with an opportunity to learn by working with experienced professionals in an area related to his or her area of study at The Theatre School.

**DES 741 THESIS PROJECT IN DESIGN**

Nine quarter hours. The production of the MFA thesis, consisting of portfolio and manuscript, under the supervision of the advisor. (prereq)

**DES 742 THESIS PROJECT IN DESIGN**

Nine quarter hours. The production of the MFA thesis, consisting of portfolio and manuscript, under the supervision of the advisor. (prereq)

**DES 743 THESIS PROJECT IN DESIGN**

Nine quarter hours. The production of the MFA thesis, consisting of portfolio and manuscript, under the supervision of the advisor. (prereq)

**DES 771 DESIGN PRODUCTION PRACTICE: GRADUATE III**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, running. (prereq).

**DES 772 DESIGN PRODUCTION PRACTICE: GRADUATE III**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, running. (prereq).

**DES 773 DESIGN PRODUCTION PRACTICE: GRADUATE III**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, running.

(prereq).

## **DISTRIBUTED SYSTEMS**

### **DS 420 FOUNDATIONS OF DISTRIBUTED SYSTEMS I**

An introduction to distributed systems. Topics may include: architecture of distributed systems; networking; datagram-oriented and stream-oriented protocols; network programming (for example, the sockets API); remote procedure call and remote method invocation; processes and threads; code migration; software agents; naming of non-mobile and mobile entities; cryptography and security.

PREREQUISITE(S): PREREQUISITE(S): CSC 374 and CSC 383.

### **DS 421 FOUNDATIONS OF DISTRIBUTED SYSTEMS II**

An intermediate course on distributed systems. Topics may include: clock synchronization; mutual exclusion; distributed transactions; consistency models; distribution and consistency protocols; failure models; achieving fault tolerance; distributed object-based systems; distributed file systems. PREREQUISITE(S): DS 420 and CSC 309.

### **DS 425 DISTRIBUTED SYSTEMS FUNDAMENTALS**

This course covers a variety of fundamental topics in distributed systems, including communication protocols, sockets, operating system support, threads, remote invocation, security in a distributed environment, time in a distributed environment, naming services, coordination and agreement and transactions. This course is intended as a service course. Students with the appropriate technical prerequisites should select DS420. PREREQUISITE(S): CSC 212 or CSC 224.

### **DS 432 CLUSTER COMPUTING**

This course examines architectural and programming issues of cluster programming. Cost/performance tradeoffs in architecture: memory hierarchy, I/O hierarchy, throughput, networking infrastructure. Symmetric multiprocessor machines. Programming schemes: distributed shared memory, tuple spaces, message passing frameworks, parallel virtual machines, computational neighborhoods. PREREQUISITE: DS 421.

### **DS 520 SYSTEM DESIGN AND IMPLEMENTATION WITH DISTRIBUTED OBJECT FRAMEWORKS**

This course will look in depth at the capabilities provided by Distributed Object Frameworks (such as CORBA) and how these capabilities make the design and implementation of distributed systems more efficient. Students will gain familiarity with the concepts involved (including distributed object references, naming services, error handling, and interoperability) by designing and implementing a system of distributed objects within such a framework. PREREQUISITE(S): DS421 or SE550

### **DS 575 INTELLIGENT INFORMATION RETRIEVAL**

Examination of the design, implementation, and evaluation of information retrieval systems. The focus is on the underlying retrieval models, algorithms, and system implementations. Also examined is how an effective information search and retrieval is interrelated with the organization and description of information to be retrieved. Topics include: automatic indexing; thesaurus generation; Boolean, vector-space, and probabilistic models; clustering and classification; information filtering; distributed IR

on the WWW; intelligent information agents; IR system evaluation; information visualization; and natural language processing in IR. Throughout the course, current literature from the viewpoints of both research and practical retrieval technologies both on and off the World Wide Web will be examined. PREREQUISITE(S): (CSC 374 and CSC 383) OR Permission of Instructor.

#### **DS 591 DISTRIBUTED ALGORITHMS**

Design and analysis of algorithms for solving problems arising in distributed computing, such as resource allocation, distributed agreement, and management of shared data. Distributed computation models and their relationships: synchronous vs. asynchronous vs. partially synchronous, shared memory vs. network models. Algorithms for leader election, graph problems, mutual exclusion, and synchronization in reliable and unreliable networks will be covered. PREREQUISITE(S): CSC 491.

#### **DS 594 DISTRIBUTED SYSTEMS PROJECT**

Design, justification, implementation, and performance analysis of a distributed system. Team-based projects that use a variety of tools are encouraged. PREREQUISITE(S): DS 520, SE 450.

#### **DS 599 TOPICS IN DISTRIBUTED SYSTEMS**

This is an independent study course. (PREREQUISITE(S): Consent of instructor. Independent Study form required).

## **ECONOMICS**

#### **ECO 500 MONEY AND FINANCIAL SYSTEMS (FORMERLY GSB 513)**

This course examines both the role of money in the economy from a functional and macroeconomic perspective as well as the structure and function of the most important financial institutions and financial markets. Topics covered include the role of the Federal Reserve as monetary policymaker, interest rate and exchange rate determination, the relationship between money and economic activity, and the organization and importance of money markets, capital markets, markets for derivative securities, commercial banks and other intermediaries in a well-functioning financial system.

#### **ECO 505 ADVANCED MICROECONOMICS (PREREQ: ECO 555 OR EQUIVALENT OR ECO 380 OR EQUIVALENT)**

An advanced course in microeconomic theory. This course will present a systematic and rigorous analysis of price determination and the allocation of specific resources to particular uses. PREREQUISITE(S): ECO 555 or equivalent or ECO 380 or equivalent.

#### **ECO 506 ADVANCED MACROECONOMICS (PREREQ: ECO 509 OR EQUIVALENT)**

An advanced course in macroeconomic theory that examines the determination of income, employment, and prices, and their interrelations. Covers traditional Keynesian as well as alternative models of output, consumption, investment, money demand, inflation and unemployment. The dynamic character of income determination is emphasized, along with effects of government policy, economic institutions, and social goals. PREREQUISITE(S): ECO 509 or equivalent.

**ECO 509 BUSINESS CONDITIONS ANALYSIS**

This course teaches students how to use available economic data to assess business conditions. This is done by: (1) evaluating the sources and usefulness of data periodically released by government and private sources and (2) developing a macroeconomic framework that the student can use to analyze business conditions. Completion of this course will allow students to understand economic news and relate it to their business or job.

**ECO 510 ECONOMETRIC METHODS FOR BUSINESS ANALYSIS**

This course is designed to provide the student with more advanced methods in quantitative analysis. Topics covered include hypothesis testing, probability, correlation analysis and multiple regression. This course will be offered every Winter quarter.

**ECO 511 BUSINESS AND ECONOMIC FORECASTING (PREREQ: ECO 509 OR EQUIVALENT & ECO 510 OR EQUIVALENT)**

This course surveys a number of quantitative techniques commonly used to forecast business and economic variables. Emphasis will be on techniques, their relative strengths and weaknesses and real-world economic applications. Topics include smoothing techniques, regression and econometric analysis and Box-Jenkins time series. PREREQUISITE(S): ECO 509 or equivalent and ECO 510 or equivalent.

**ECO 512 APPLIED TIME SERIES AND FORECASTING (CROSS-LISTED AS MATH 512/MATH 358) (PREREQ(S): SEE DESCRIPTION)**

Theory and computer implementation of the Box-Jenkins Techniques with emphasis on forecasting business and industrial activity. PREREQUISITE(S): ECO 509 or equivalent and ECO 510 or equivalent.

Crosslisted as MAT 512.

**ECO 514 INDUSTRIAL ORGANIZATION (PREREQ: ECO 555 OR EQUIVALENT)**

This course is concerned with how the market system directs production decisions under varying deviations from the competitive environment. The links between market structure, conduct and performance are examined. Topics include determinants of market structure, various theories of imperfect competition, price discrimination, predatory pricing, and antitrust policy. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 515 GOVERNMENT REGULATION OF BUSINESS ACTIVITIES (PREREQ: ECO 555 OR EQUIVALENT)**

This course is designed to introduce students to an economic framework for analyzing the business policy implications of government regulation; and asks the question: "What is the appropriate level of government intervention of business activities?" During the first part of the course, existing government regulation of industries will be critically examined considering the full spectrum of "regulation" including: government enterprises; rate regulation of monopoly; quality regulation in competitive industries; and antitrust enforcement. Once students are comfortable using these analytical tools they will be asked to consider the impact of a change in regulation or the business environment on public policy concerns through analysis of current topics. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 516 PUBLIC ECONOMICS AND THE ECONOMICS OF TAXATION (PREREQ: ECO 555 OR EQUIVALENT)**

Application of microeconomic analysis to the role of government in society. The theoretical foundation for the design of an efficient and equitable tax and expenditure program is presented and the impact of such a program on the economy is explored through general equilibrium analysis. Students must have a solid foundation in basic

calculus. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 518 LABOR ECONOMICS AND LABOR RELATIONS (CROSS-LISTED AS MGT 518) (PREREQ: ECO 555 OR EQUIVALENT)**

(Cross-listed as MGT 518) A study of the American labor force: measurement, characteristics and behavior under changing income, employment and technology. An examination of recent labor market developments provides the basis for a critical analysis and appraisal of contemporary wage theory. Topics include changes in the labor force, unemployment, wage determination, the minimum wage, internal labor markets, productivity, discrimination, unions and collective bargaining. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 530 HISTORY OF ECONOMIC THOUGHT (PREREQ: ECO 555 OR EQUIVALENT)**

A study of the evolution of the science of economics. Emphasis is on the important contributions made to the field by the great thinkers, starting with the Physiocrats and extending to the work of contemporary institutional and post-Keynesian economists. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 539 COMPARATIVE ECONOMIC SYSTEMS (PREREQ: ECO 555)**

A study of the contrasting theories of socialism and capitalism. PREREQUISITE: ECO 555

**ECO 550 REGIONAL AND URBAN ECONOMICS (PREREQUISITE: ECO 555 OR EQUIVALENT)**

The course investigates the spatial character of an economic system. The first part of the course is concerned with theories in regional economics, including business and household location theory, urbanization, and regional development. The latter part of the course deals with urban economics, a specialized area concerned with the economic forces behind many urban problems. Topics include the economics of housing, transportation, poverty, crime and urban public finance. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 555 ECONOMICS FOR DECISION-MAKING**

This course provides students with an opportunity to apply microeconomic principles to managerial decision-making. These principles include those underlying the theories of consumer choice, production and cost as they relate to decisions made by firms and households. Specific topics include consumer demand analysis and estimation; elasticity; production theory; cost structure and estimation; profit maximization; and the effect of market structure on pricing, output and profit.

**ECO 557 INTERNATIONAL TRADE THEORY & POLICY (CROSS LISTED WITH IB 520) (PREREQ: ECO 555 OR EQUIVALENT)**

(Cross-listed with IB 520) Modern theories of international trade: classical theory of comparative advantage, factor proportions theory, factor price equalization, application of welfare economics to international trade, including regional economic integration, commercial policy and tariff problems. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 558 INTERNATIONAL MACROECONOMICS (PREREQ: ECO 509 OR EQUIVALENT) (CROSS-LIST: IB 521)**

Analyzes traditional macroeconomic issues in a framework that allows for international trade and capital flows. PREREQUISITE(S): ECO 509 or equivalent.

**ECO 560 DEVELOPMENT OF THE AMERICAN ECONOMY (PREREQ: ECO 509 OR EQUIVALENT AND ECO 555 OR EQUIVALENT)**

This course describes the economic development of the United States by examining topics such as: colonial settlement patterns, the impact of the railroad, the development of the financial system and the Great Depression.

PREREQUISITE(S): ECO 509 or equivalent and ECO 555 or equivalent.

**ECO 561 ECONOMICS OF DEVELOPING COUNTRIES (CROSS LISTED WITH IB 525) (PREREQ: ECO 555 OR EQUIVALENT)**

Introduction to the economist's analytical skills applied to problems of developing and newly industrialized countries. Studies economic theory of development, development policy, and decision-making in the developing world; several case studies are examined.

PREREQUISITE(S): ECO 555 or equivalent.

**ECO 576 ADVANCED ECONOMETRICS (PREREQ: ECO 555 OR EQUIVALENT)**

The fundamental problems in the application of statistical procedures to econometric estimation will be studied: multicollinearity, identification, serial correlation, and nonhomogeneity of error variance. In addition, more sophisticated estimation techniques will be studied, e.g., reduced-form and multiple-stage regression techniques.

PREREQUISITE(S): ECO 555, 510, 375 or equivalent.

**ECO 599 SEMINAR IN ECONOMICS**

The course content depends upon the choice of the instructor. In recent years, the material chosen was literature explaining the nature of the science of economics, including the competing paradigms of the Austrian school, Schumpeter, Solidarism, Max Weber, Institutionalism and Post-Keynesianism.

**ECO 600 THESIS RESEARCH**

Thesis Research

**ECO 798 SPECIAL TOPICS**

Content and format of this course are variable. An in-depth study of current issues in economics. Subject matter will be indicated in class schedule.

**ECO 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in economics. PREREQUISITE(S): Written permission.

**E-COMMERCE TECHNOLOGY**

**ECT 310 INTERNET APPLICATION DEVELOPMENT (AVAILABLE TO GRADUATE STUDENTS ONLY)**

Development of Internet-based applications using client and server-side scripting. Students will design and build an Internet application that accesses a database.

PREREQUISITE(S): CSC 212 or CSC 224. Graduate standing required.

**ECT 423 INTERNET MULTIMEDIA**

(Cross-listed as HCI 423) Design and prototyping of multimedia applications for delivery via the Internet. Survey of low-bandwidth file formats for images, sound, and animation. Bandwidth reduction techniques and tools. Discussion of client side and server side allocation of responsibility. Authoring tools. Students will create and

evaluate several small applications. PREREQUISITE(S): ECT 441.

### **ECT 425 TECHNICAL FUNDAMENTALS OF DISTRIBUTED INFORMATION SYSTEMS**

The course is an introduction to distributed information systems, including architecture of distributed information systems, networking, communication protocols, operating system support, remote method invocation, web service, and security in distributed information systems. PREREQUISITE(S): CSC212 and TDC361.

### **ECT 433 SURVEY OF WEB PROGRAMMING TECHNOLOGIES**

Survey of server-side scripting technology with emphasis on information search in a Web site. Projects include development of product catalogs and information search system of a Web site. For non-ECT and non-IS major only. PREREQUISITE(S): HCI 430 for HCI majors; Completion of Prerequisite phase for other majors.

### **ECT 435 SURVEY OF E-COMMERCE STRATEGIES AND TECHNOLOGY**

A survey of business models, value propositions, and e-commerce value chains for consumer-oriented, business-to-business, and collaborative e-commerce applications. Marketing, security, digital money, e-business infrastructure, basics of Web site engineering process, e-commerce technology and tools. This is a service course. Students with server-side programming skills should take ECT 455. Prerequisites: ECT 250 and IS 421.

### **ECT 441 USABILITY ISSUES FOR ELECTRONIC COMMERCE**

(Cross-listed with HCI 441) Design, prototyping and evaluation of e-commerce web sites. Context of usability in the project development life cycle. User/task analysis with emphasis on the first time and the infrequent user. Content organization. User testing with low fidelity prototypes. Issues of perceived privacy and security. Students projects involve design and/or evaluation of actual electronic commerce sites. PREREQUISITE(S): ECT 455.

### **ECT 455 E-COMMERCE WEB SITE ENGINEERING**

(Formerly ECT 555, cross-listed with HCI 513) An introduction to Web site engineering methods and processes to support e-commerce development. Web site engineering life cycle and user-centered design, including site goals, business models, value propositions, user analysis, information architecture, interface and navigation design, usability guidelines, database, testing, hosting strategies, usage metrics, and collaborative development. Technologies for e-commerce, shopping cart, digital payments, promotion strategies, and security issues. Students will build fully functional Web sites using database and client- and server-side technologies. Prerequisites: ECT 310 or HCI 430 or proficiency in programming.

### **ECT 480 INTRANETS AND PORTALS**

Intranet development methodology. Data warehousing concept and On-Line analytic processing (OLAP) for information management. Enterprise information portals (EIP). Transforming information into knowledge. Major applications involve: decision support, customer applications and content personalization for intranet. Students will conduct case studies and projects. PREREQUISITE(S): ECT 455.

### **ECT 481 INTERNET SUPPLY CHAIN MANAGEMENT**

This course examines system architectures, technologies, approaches, and infrastructure requirements in the context of supply chain systems. The focus is on the design, development and implementation of systems that facilitate the collaboration of an enterprise with its buyers and suppliers. Topics include development of messaging-based collaboration framework with web services. Students will design and implement a

collaborative extranet system component in team projects. PREREQUISITE(S): ECT 425.

### **ECT 556 ENTERPRISE ARCHITECTURE AND DESIGN**

This is an advanced course on the design and planning of enterprise architecture that enables intra-/multi-enterprise collaboration and interoperability. The emphasis is on the alignment between IT and organizational objectives through the integration of business architectures, data and information architecture, application architecture, technology architecture, interfaces and infrastructure. Topics include: frameworks, tools, and methodologies for enterprise architecture design; data and process modeling, application integration, implementation fundamentals, adaptability to changing organizational needs, and managing costs of implementation. Students will conduct case studies and develop architecture plans. Prerequisites: ECT 480 or consent.

### **ECT 557 PEER-TO-PEER TECHNOLOGY**

Peer-to-Peer (P2P) e-commerce is a paradigm for programming distributed e-commerce systems characterized by an increasing decentralization and autonomy of components. This course reviews the technical and business issues regarding P2P e-commerce. Topics include: P2P architecture and interoperability; P2P systems in use today; P2P content management issues; P2P collaboration applications: chat, white boards, file sharing, games, and synchronization; and P2P security and monitoring. Also addressed are: P2P application and business models for business to business and to consumer e-commerce; supply chain and collaborative planning, forecasting and replenishment; intellectual property concerns, management issues, and programming P2P applications. Prerequisites: ECT 425, ECT 480, and ECT 481.

### **ECT 565 MOBILE ENTERPRISE**

Mobile enterprise information systems are becoming increasingly complex and consist of existing systems with enabling middleware to achieve end-to-end enterprise mobile solutions. Mobile infrastructure performs content adaptation, data synchronization, bridging corporate and mobile messaging systems and support mobile information portals. The course will discuss web services oriented component architecture and system integration with Adaptive Application Architecture (AAA) with Wireless application gateway (WAG) and Multi-channel Access Gateways (MAG) supporting mobile and wireless access for heterogeneous devices. Such concepts as content distribution, connectivity and security, scalability and load balancing, device management will be discussed. Additional topics include Location-aware applications supporting mobile knowledge workers, business process for value contribution, and investment decisions on mobile technologies. Students will become familiar with mobile enterprise tool suites, mobile messaging delivery platforms, wireless Web portals. Students will be implementing mobile enterprise solution components. PREREQUISITE(S): Completed foundation phase.

### **ECT 582 SECURE ELECTRONIC COMMERCE**

This course studies technologies, architectures, and infrastructure for securing electronic transactions over nonproprietary networks. From the difference of paper documents and electronic documents to the implementation and maintenance of mechanisms that secure electronic documents with confidentiality, authentication, integrity, and non-repudiation, the focus is on the technologies of public key certificate, digital signature and internet security. Revised Prerequisites: ECT 425 or CS 390

### **ECT 583 ADVANCED SCRIPTING TECHNOLOGIES**

This course focuses on applying advanced scripting technologies in the design and development of large Web applications. Major topics include tiered application design, transacted Web applications, components, and Web services. Prerequisites: Proficiency

in programming.

**ECT 584 WEB DATA MINING FOR BUSINESS INTELLIGENCE**

An in-depth study of various aspects of data collection, data extraction, and knowledge discovery on the Web for e-business intelligence. The primary topics covered in the course are Web usage mining, Web content mining, and Web structure mining. Techniques and applications for mining e-commerce and Web usage data for site management, personalization and user profiling. Also addressed are privacy issues, collaborative and content-based filtering. Techniques for harnessing semi-structured data through techniques based on text mining, and meta-data representation and manipulation using XML. PREREQUISITE(S): CSC 383 and CSC 449.

**ECT 585 LEGAL ASPECTS OF E-COMMERCE**

This course is focused on how the law affects e-commerce. Topics include: electronic contracts, privacy issues associated with the use of the Internet, security issues including digital signatures, encryption and biometrics, intellectual property issues including trademark/domain name conflicts, copyrights, patents for business methods, taxation of internet transactions. Students will also gain an understanding of the issues involved in taking a company public (IPO), what information venture capitalists (VC) require in order to make decisions regarding financing startup companies. Prerequisite: ECT 455.

**ECT 586 CUSTOMER RELATIONSHIP MANAGEMENT TECHNOLOGIES**

An in-depth study of customer relationship management (CRM) technologies and applications. The special focus will be on the application of CRM technologies for managing the customer lifecycle across Internet and offline channels. Topics include customer identification, data integration, personalization technologies, web and email interaction techniques; sales force automation applications; call centers, field service and logistics applications; customer self-service and customer knowledge management technologies. Students will review and compare specific eCRM technologies and develop an Internet customer interaction system to support an eCRM strategy in group project. PREREQUISITE(S): ECT 455.

**ECT 587 MOBILE COMMERCE TECHNOLOGY**

This course examines leading wireless and mobile technologies for consumer and enterprise mobile commerce. Topics include wireless standards and technologies, the impact of bandwidth, platforms, form factors, mobile data services, security and transaction models. Wireless Web development issues concern Web synchronization, server-side content management, Wireless Application Protocol (WAP), Wireless Markup Language (WML), Handheld Device Markup Language (HDML), wireless user interface design, and wireless Web development tools. Mobile commerce applications include personalization, customer relationship management, mobile portals, and wireless enterprise solutions for business process and workflow. Students will develop mobile commerce applications. (PREREQUISITE(S): ECT 455).

**ECT 588 E-MARKETPLACE TECHNOLOGY**

This course concentrates on system development for online trading applications supporting complex interactions and transactions. Theoretical models of online information exchanges supporting negotiations such as: auctions, brokerages and exchanges/marketplaces will be discussed. Server/client side applications utilizing the models and distributed data access will be developed. Assignments will include system design as well as application development projects using Java. PREREQUISITE(S): ECT425.

**ECT 589 E-COMMERCE TECHNOLOGY CAPSTONE**

Designed for ECT majors and IS majors in ECT concentration, this course focuses on the deployment of Internet and enterprise technologies to support organization's e-business initiatives and collaborative commerce. Conducted in the format of seminar, case analysis, and dialogue with industry practitioners, this course requires students to actively participate in the study of models and approaches for e-business technology implementation and transformation. Topics include: the impact of Internet on industry structure and organizational transformation, enterprise application architecture, planning and implementation of technology and process to support an increasingly collaborative and integrated environment for e-commerce. Students have to complete an organization case study of e-business technology implementation to fulfill the requirement of this capstone course. This course should be taken at the conclusion of the ECT program. PREREQUISITE(S): Completion of all other required courses.

**ECT 590 E-BUSINESS TECHNOLOGY PRACTICUM**

This practicum course is aiming at exposing e-commerce students to distributed multi-platform, multi-language, multi-tier application development. Besides the heavy programming emphasis, the students will analyze design and implementation issues in such an environment. The course content involves design and development of an e-commerce system that includes business to business, customer facing, and information portal applications. Students will work on projects using different platforms and different programming languages in a lab environment. Topics include design of e-commerce systems, distributed database development, multi-web server environment development, application of distributed object technologies. This course fulfills the capstone/practicum requirement for ECT majors and should be taken at the conclusion of the program. Prerequisites: ECT 480 or ECT 481 or consent.

**ECT 596 TOPICS IN E-COMMERCE TECHNOLOGY**

Independent study form required. PREREQUISITE(S): Consent of instructor.

**ECT 690 MASTER'S PROJECT**

Readings and discussion on current research topics. Students may register for this course no more than twice. PREREQUISITE(S): Consent of the instructor.

**ECT 696 MASTER'S PROJECT**

Four credit hours. Students may register for this course only after their advisor has approved a written proposal for their project. Independent study form required. (PREREQUISITE(S): Consent of advisor).

**ECT 698 MASTER'S THESIS**

(2 credit hours) Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. Independent study form required. PREREQUISITE(S): Consent of advisor.

**ENGLISH****ENG 401 HISTORY OF THE ENGLISH LANGUAGE**

A systematic study of the nature, history and usage of the English language. The course traces the language from its origin to its present status in England and America.

**ENG 402 HISTORY OF ENGLISH PROSE STYLE**

A survey of alternative theoretical approaches to the study of style, followed by intensive study of changes in the conventions of English prose from the Renaissance to the present.

**ENG 403 HISTORY OF RHETORIC I: CLASSICAL RHETORIC**

A survey of Greek and Roman rhetorical theory. Examines important definitions and discussions of rhetoric from Plato to Augustine, with attention to their implications for an understanding of the roles of rhetoric and writing in modern society.

**ENG 404 HISTORY OF RHETORIC II: RHETORIC IN THE RENAISSANCE AND EIGHTEENTH CENTURY**

A survey of developments in rhetoric from the 16th through the 18th centuries. Includes consideration of the vernacular rhetorics of the English Renaissance and analysis of connections between logic, rhetoric and literary criticism in the 18th century, with attention to implications for contemporary studies of literature, language and writing.

**ENG 405 HISTORY OF RHETORIC III: MODERN RHETORIC (FORMERLY ENG 407)**

A survey of theories and practices in 19th- and 20th-century rhetoric. Examines psychological, social and philosophical roots of contemporary rhetorics and the influence of scientific and literary studies on theories of discourse.

**ENG 406 MULTICULTURAL RHETORICS**

An introduction to written rhetoric and culture. Explores competing conceptions of culture and meanings of literacy, particularly as they relate to American literacy education.

**ENG 408 STYLISTICS**

Theory and practice in examining features of prose style, including linguistic, rhetorical and literary perspectives on style.

**ENG 409 TOPICS IN LANGUAGE, RHETORIC AND WRITING**

See schedule for current offering.

**ENG 411 CHAUCER**

Chaucer's works in context of his milieu.

**ENG 412 STUDIES IN ARTHURIAN LITERATURE**

Geoffrey of Monmouth, Wace, Layamon and Malory.

**ENG 413 STUDIES IN MEDIEVAL LITERARY FORMS**

Alternating emphasis on poetic, narrative and dramatic genres of the 14th and 15th centuries.

**ENG 416 STRUCTURE OF MODERN ENGLISH**

A systematic outline of modern English from both traditional and contemporary linguistic perspectives. Examines descriptive grammars, word and phrase structure, syntax and semantics, and formal issues of style and rhetoric.

**ENG 419 TOPICS IN MEDIEVAL LITERATURE**

See schedule for current offering.

**ENG 421 STUDIES IN ENGLISH RENAISSANCE PROSE**

Major prose works, including More's Utopia, Sidney's Apology for Poetry, Bacon's Essays, and Milton's Areopagitica.

**ENG 422 STUDIES IN ENGLISH RENAISSANCE POETRY**

Alternating emphasis on the English epic, the 16th-century lyric, and the 17th-century lyric.

**ENG 423 STUDIES IN ENGLISH RENAISSANCE DRAMA**

Tudor-Stuart drama, including works by Kyd, Marlowe, Jonson, Webster and Ford.

**ENG 426 THE ESSAY: HISTORY, THEORY, PRACTICE (FORMERLY ENG 488)**

Explores the history of the essay as genre from the Renaissance to the present, compares and contrasts literary essays with those written in most school settings, and offers students the opportunity to write their own extended essays on personal and professional topics.

**ENG 427 MILTON**

Major poems and selected prose.

**ENG 428 STUDIES IN SHAKESPEARE**

Study of selected plays through various critical and scholarly perspectives.

**ENG 429 TOPICS IN RENAISSANCE LITERATURE**

See schedule for current offering.

**ENG 431 STUDIES IN THE EIGHTEENTH CENTURY NOVEL**

Representative English prose fiction, including Defoe, Richardson, Fielding, Sterne and the Gothic novel.

**ENG 432 STUDIES IN RESTORATION AND 18TH CENTURY DRAMA**

Studies in the comedy of manners, sentimental comedy, heroic drama, and bourgeois tragedy.

**ENG 434 STUDIES IN RESTORATION AND EIGHTEENTH CENTURY AUTHORS**

Alternating emphasis on, for example, Dryden, Pope, Swift, Johnson or other authors.

**ENG 439 TOPICS IN RESTORATION AND EIGHTEENTH CENTURY LITERATURE**

See schedule for current offerings.

**ENG 441 STUDIES IN ENGLISH ROMANTIC PROSE**

Major Romantic nonfiction prose writers, including Burke, Coleridge, Hazlitt, DeQuincey and Lamb.

**ENG 442 STUDIES IN ENGLISH ROMANTIC POETRY**

Alternating emphasis on major Romantic poets, including Blake, Wordsworth, Coleridge, Byron, Shelley and Keats.

**ENG 443 STUDIES IN VICTORIAN PROSE**

Major Victorian nonfiction prose writers, including Carlyle, Newman, Ruskin, Mill, Arnold and Pater.

**ENG 444 STUDIES IN VICTORIAN POETRY**

Major Victorian poets, including Tennyson, Browning and Arnold.

**ENG 445 STUDIES IN 19TH CENTURY BRITISH FICTION**

Alternating emphasis on major novelists including Dickens, Thackeray, the Brontes, Eliot, Trollope and Hardy.

**ENG 446 NINETEENTH CENTURY IRISH LITERATURE**

This course surveys a broad range of literature from nineteenth-century Ireland. It reads literature within the social and historical context of its day; in terms of the formation of individual, social and national identities; and within today's debate about Ireland's status at the time.

**ENG 449 TOPICS IN 19TH CENTURY BRITISH LITERATURE**

See schedule for current offering.

**ENG 451 STUDIES IN THE MODERN BRITISH NOVEL**

Alternating areas of emphasis, including Woolf, Joyce, Forster and Conrad.

**ENG 452 STUDIES IN MODERN BRITISH POETRY**

Alternating areas of emphasis, including Yeats, Auden, Lawrence, Dylan Thomas, Eliot and Larkin.

**ENG 453 STUDIES IN MODERN BRITISH DRAMA**

Representative British and Irish plays from World War I to contemporary times.

**ENG 455 MODERN IRISH LITERATURE**

This course uses both historical and theoretical approaches to Irish literature written from the Literary Revival to the late twentieth century. It emphasizes the transition from a colonized to a postcolonial society and the slow validation of the voices of Irish women writers.

**ENG 456 CONTEMPORARY IRISH LITERATURE**

This course relates contemporary Irish literature to recent Irish history and to social and cultural change. It charts the ways in which patterns of individual, social and national identity have been challenged and renegotiated.

**ENG 459 TOPICS IN MODERN BRITISH LITERATURE**

See schedule for current offering.

**ENG 464 STUDIES IN AMERICAN AUTHORS**

Alternating emphasis on major writers, including Hawthorne, Melville, Poe, Whitman, Dickinson, Twain, Chopin, Crane, James, Wharton and Cather.

**ENG 465 STUDIES IN THE MODERN AMERICAN NOVEL**

Alternating emphasis on major 20th-century writers, including Fitzgerald, Hemingway, Stein, Faulkner, Steinbeck, Porter, Penn Warren, Bellow, O'Connor, Oates and Morrison.

**ENG 466 STUDIES IN MODERN AMERICAN POETRY**

Introduction to a wide range of twentieth-century American poetries, with alternating emphasis on modernists such as Frost, Eliot, Pound, Stevens, Williams, Moore, HD., Hughes, and Rukeyser as well as more recent figures and trends..

**ENG 467 STUDIES IN AMERICAN DRAMA**

American dramatists and dramatic movements.

**ENG 469 TOPICS IN AMERICAN LITERATURE**

See schedule for current offering.

**ENG 471 BIBLIOGRAPHY AND LITERARY RESEARCH**

Principles and methods of literary research.

**ENG 472 STUDIES IN LITERARY CRITICISM**

Study of the theoretical foundations of literary criticism, exemplified by major texts from ancient Greece to the present.

**ENG 474 TEACHING LITERATURE**

Prepares English teachers to teach literature at the secondary and college undergraduate levels. The course develops methods of teaching all literary genres, addresses problems in literacy, and focuses on the transactional nature of reading and writing.

**ENG 475 TOPICS IN LITERATURE**

See schedule for current offering.

**ENG 480 TEACHING WRITING**

Introduction to teaching composition at the secondary and college undergraduate levels. The course helps students develop methods of teaching composition based on modern theories of rhetoric, reading and language acquisition.

**ENG 482 WRITING CENTER THEORY AND PEDAGOGY (CROSS-LISTED AS ENG 395)**

Introduction to current theories and practices in writing instruction; prepares students to develop and administer writing centers and to work as writing consultants. (Writing Center practicum required. This four-credit-hour course will be offered over a two-quarter time span during the Autumn and Winter quarters only. See instructor for further information).

**ENG 483 COMPOSITION THEORY**

Explores the development of contemporary theories of written composition; focuses on contexts for writing, the writing process, and reader-writer relationships.

**ENG 485 TEACHING CREATIVE WRITING**

Prepares English teachers to teach creative writing at the secondary and college undergraduate levels. Models the planning and directing of effective workshops in poetry and fiction writing.

**ENG 486 DOCUMENT DESIGN**

A practical and theoretical examination of the relationship between text and graphics. Students will apply basic graphic principles to actual documents.

**ENG 487 TRAVEL WRITING**

Writing travel essays: history and forms of the literary travel essay; writing about travel for the book and magazine market.

**ENG 489 SCREENWRITING**

An introduction to the craft of screenwriting. Covers principles of plot, dramatic conflict, characterization, dialogue, and screenplay form. Students develop short dramatic and documentary screenplays.

**ENG 490 WRITING FOR MAGAZINES**

Covers the range of skills necessary for magazine writing. Discussion of the elements of style, humor, research, concept and imagery that characterize the literature of fact. Students investigate, compose and edit finished magazine articles to be submitted for publication.

**ENG 491 SCIENCE WRITING**

An introduction to the creative career of science writing. Students research, write, and market articles on such subjects as astronomy, genetics, health, and technology for newspapers, magazines, e-zines, and innovative journals. No prior science background required.

**ENG 492 WRITING FICTION (PERMISSION REQUIRED)**

A course in writing short stories. Emphasis is placed on class discussion of student writing.

**ENG 493 WRITING POETRY (PERMISSION REQUIRED) (CROSS-LISTED AS MLS 479)**

A course in writing and reading poetry. Emphasis is placed on class discussion of student writing.

**ENG 494 WRITING IN THE PROFESSIONS (CROSS-LISTED AS MLS 459 AND MPS 508)**

Improves writing skills useful in semi- and nontechnical professions; emphasis on style, tone, awareness of purpose and audience; effective memo, proposal and report writing.

**ENG 495 TECHNICAL WRITING**

An introduction to various aspects of technical writing, including readability, document design, editing and usability.

**ENG 496 EDITING**

An introduction to editing principles and practices in professional and technical fields.

**ENG 497 WRITING THE LITERATURE OF FACT (PREREQUISITE: ENG 490 OR PERMISSION)**

An advanced course in reading and writing true-life stories in the nonfiction tradition exemplified by such writers as Dickens, Agee, McPhee, and Didion.

**ENG 498 INDEPENDENT STUDY**

**ENG 499 THESIS RESEARCH**

**ENG 500 INDEPENDENT STUDY**

Written permission of supervising faculty member and of the program director is necessary before registration. Variable credit.

**ENG 501 THESIS RESEARCH**

Written permission of supervising faculty member and of the program director is necessary before registration. Limited to four credits.

**ENG 502 CANDIDACY CONTINUATION**

Non-credit. Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. \$40.00 per quarter.

**ENG 509 INTERNSHIP (PREREQUISITE: WRITTEN PERMISSION)**

Internship (prerequisite: Written Permission)

**FOCUS AREA**

**FA 402 FACILITY PLANNING AND DESIGN**

**FINANCE**

**FIN 510 ADVANCED MONETARY THEORY AND POLICY (PREREQ: ECO 509 & FIN 555)**

This course is designed to provide the analytical tools for a critical examination of monetary and fiscal policies together with their impact on economic activity in general, and on the commercial banking system in particular. Problems involving interest rates, the value of money and qualitative portfolio changes are examined in detail in the light of current theoretical contributions. PREREQUISITE(S): ECO 509 and FIN 555.

**FIN 511 CONTEMPORARY ISSUES IN MONETARY AND FISCAL POLICY (PREREQ: FIN 510 OR FIN 513 & FIN 555)**

Contemporary issues in the areas of fiscal, monetary and debt management. Analyzed through intensive readings and discussions of technical journal articles and research papers. PREREQUISITE(S): FIN 510 or FIN 513 & FIN 555.

**FIN 512 COMMERCIAL BANKING (PREREQ: FIN 555)**

The purpose of the course is to analyze the role of commercial banks in the financial system. The present structure of banking will be studied with particular emphasis on the relationship between commercial banking practices and economic stabilization goals. Issues in bank asset management, liability management and capital adequacy will be presented. Finally, new dimensions in banking will be considered. PREREQUISITE(S): FIN 555.

**FIN 513 MONEY AND CAPITAL MARKETS (PREREQ: ECO 509 AND FIN 555)**

Money and capital markets; economic forces that influence them; appropriate strategies of financial managers in participating in these markets. PREREQUISITE(S): ECO 509 and FIN 555.

**FIN 523 INVESTMENT ANALYSIS (PREREQ: FIN 555)**

This course provides an overview of the investment environment for the institutional money manager. The market mechanism, market equilibrium, the relationship between risk and return and the valuation of various investment instruments are investigated. PREREQUISITE(S): FIN 555.

**FIN 524 FINANCIAL STATEMENT AND SECURITY ANALYSIS (PREREQ: FIN 555)**

This course develops financial analysis skills from the view of an outsider using a corporation's publicly available financial statements. Techniques such as commonsizing, ratio analysis, decomposition and the use of a comprehensive DuPont Model are used as a basis to teach analytical thought processes necessary to make projections for a company based on its financial statements. The use of spreadsheets as an analytical tool will be strongly emphasized. PREREQUISITE(S): FIN 555.

**FIN 525 PORTFOLIO MANAGEMENT (PREREQ: FIN 523 AND FIN 555)**

This course analyzes contemporary theories and techniques of security selection and management available to the institution portfolio manager. Significant literature which emphasizes the role of the modern portfolio manager in achieving diversification and client investment goals is reviewed and evaluated. PREREQUISITE(S): FIN 523 and FIN 555.

**FIN 526 ADVANCED TOPICS IN INVESTMENTS (PREREQ: FIN 523 & FIN 555)**

This course is designated to provide students with knowledge of fixed income securities and alternative investments such as real estate, venture capital and hedge funds. This knowledge will help prepare students to pass the fixed income and alternative investments sections of the CFA examinations. PREREQUISITE(S): FIN 523 & FIN 555.

**FIN 527 OPTIONS AND FUTURES (PREREQ: FIN 523)**

Development and application of the theory of option pricing. Emphasis is placed on the valuation of stock options using current valuation models. This course develops a fundamental understanding of the futures markets, including 1) the mechanics of the market, 2) hedging applications, 3) theory of futures market pricing, and 4) the relation between interest rate movements in the underlying markets and the associated futures markets. PREREQUISITE(S): FIN 523.

**FIN 528 VALUATION AND USE OF INTEREST RATE INSTRUMENTS (PREREQ(S): FIN 523, FIN 527 AND FIN 555)**

The first part of the course focuses on the valuation and risk management applications of mortgage securities, such as MPTs, CMOs and STRIPS. A demonstration of how to generate an arbitrage-free term structure is included. The second part of the course covers interest rate swap structures, their uses, and pricing. PREREQUISITE(S): FIN 523, FIN 527 and FIN 555.

**FIN 530 REAL ESTATE INVESTMENT AND FINANCE (PREREQ: FIN 555)**

Analysis of real estate investment opportunities and the characteristics that distinguish them from other assets. Emphasis is upon forecasting cash flows and estimating risk. Case analysis is an integral part of the course technique. PREREQUISITE(S): FIN 555.

**FIN 531 REAL ESTATE FINANCE (PREREQ: FIN 530 AND FIN 555)**

Analysis of private and public institutions involved in real estate finance. A critical study of institutional arrangements facilitating real estate investment and development. Analysis of yields and risk in mortgage lending. PREREQUISITE(S): FIN 530 and FIN 555.

**FIN 533 REAL ESTATE MARKET ANALYSIS AND VALUATION (PREREQ: FIN 555 AND FIN 530)**

Critical analysis of the appraisal process and its theoretical foundation. Market analysis techniques and valuation of income producing properties. Exploration of both basic and innovative approaches to value employing computer databases and information technology. PREREQUISITE(S): FIN 555, FIN 530.

**FIN 535 REAL ESTATE INVESTMENT (PREREQ: FIN 530 AND FIN 555)**

Analysis of different strategies available to real estate investors. Focus is on large-scale development and institutional investment portfolio decisions. The case method is an integral part of the course technique. PREREQUISITE(S): FIN 555 and FIN 530.

**FIN 551 PROBLEMS IN CORPORATE FINANCIAL POLICY (PREREQ: FIN 555)**

Theoretical and practical tools in financial decision-making are discussed using cases studies. Covers investment analysis as this relates to the risk and timing of cash flows, capital structure and dividend policy. PREREQUISITE(S): FIN 555.

**FIN 553 SPECIAL TOPICS IN CORPORATE FINANCE (PREREQ: FIN 555)**

The analytical methods and quantitative decision models applicable to special areas of corporate finance are examined and studied in this course. These topic areas could include current asset management, convertible bonds, warrants, lease financing, mergers and consolidations or other current financial issues. PREREQUISITE(S): FIN 555.

**FIN 555 FINANCIAL MANAGEMENT (PREREQUISITES: ACC 500 and ECO 555 or equivalent)**

A study of the major decision areas faced by the corporate financial manager and their relationship to the goals of the firm's owners. Specific topics include capital budgeting, capital structure and the cost of capital, dividend policy, and current asset management. PREREQUISITE(S): ACC 500 and ECO 555 or equivalents.

**FIN 558 MERGERS AND ACQUISITIONS**

This course focuses on the pragmatic issues and relevant research studies on mergers, acquisitions and corporate restructuring. The field of mergers and acquisitions continues to experience dramatic growth. Although many companies pursue and expansionary strategy that include mergers and acquisitions, many others rely on corporate restructuring to become more efficient, such as spin-offs, equity, carve-outs and divestitures. This course will also cover leverage buyouts, merger strategy, employee stock ownership plans, antitakeover measures and valuations of businesses, including the valuation of privately held firms. Prerequisite(s): FIN 555.

**FIN 562 RISK MANAGEMENT (PREREQ: FIN 555)**

This course addresses the basic financial and statistical techniques which enhance risk management decision-making. The objective of this course is to develop a fundamental analytic framework and to apply it to issues of concern to corporate or investment risk managers. PREREQUISITE(S): FIN 555.

**FIN 571 FINANCING NEW VENTURES (PREREQ: FIN 555)**

This course will focus on identifying, examining and evaluating various sources of original and growth capital. Emphasis will be on legal, financial and tax issues related to capital formation as well as specific problems experienced by the small-to-medium-sized firm undergoing rapid growth. Topics discussed will include financing startups, financial planning and strategy, going public, selling out and bankruptcy. A formal proposal for capital acquisition developed through field research will be required of each student. PREREQUISITE(S): FIN 555.

**FIN 581 THE PSYCHOLOGY OF FINANCIAL DECISION MAKING**

This course reviews current behavioral research on intuitive judgment, belief formation, risk attitudes, and emotion. The findings help to explain financial decisions made by individual investors, households and money managers. This course is a prerequisite for FIN 582 and FIN 583. It is especially useful for students who plan a career as financial

advisors.

**FIN 582 THE PSYCHOLOGY OF FINANCIAL MARKETS**

This course studies the behavior of world equity markets from a psychological perspective. Topics include equity portfolio management, investor sentiment, value and growth investing, market under- and overreaction to news and the quality of analysts' earnings forecasts and stock recommendations. Selected aspects of bond, derivative, and currency markets are also discussed. Prerequisite: FIN 581.

**FIN 583 BEHAVIORAL ASPECTS OF CORPORATE FINANCE**

This course asks how psychological, sociological and organizational forces shape the strategic investment, restructuring, and financing decisions made by top managers in corporations. Topics include capital budgeting, earnings management, investor relations, executive compensation and the role of corporate boards.

**FIN 595 INVESTMENT SEMINAR (PREREQ: PERMISSION OF INSTRUCTOR)**

Construction and management of an actual portfolio fund in a nine month seminar setting. Registration requires approval of the seminar director based on applications due in the Spring quarter. PREREQUISITE(S): Permission of instructor.

**FIN 596 REAL ESTATE SEMINAR (PREREQ(S): FIN 530, FIN 531 AND FIN 555)**

The objectives of this course are to identify current, researchable topics pertaining to real estate and for students to perform independent research on selected topics approved by the seminar professor. Meetings will be held on both a class and on an individual basis. Students will present both their proposals and the results of their preliminary investigations in class. A seminar research paper is required of each student. PREREQUISITE(S): FIN 530, FIN 531 and FIN 555.

**FIN 597 RESEARCH SEMINAR IN FINANCE (PREREQ: FIN 555)**

The objectives of this seminar will be to review authoritative current contributions in the finance field, identify and evaluate data sources and pursue an original investigation on a topic approved by the seminar professor. Students shall be near the end of the M.B.A. program before enrolling in this course. PREREQUISITE: FIN 555.

**FIN 617 CAPITAL MARKETS AND CORPORATION FINANCE I (PREREQS): FIN 523 AND FIN 555)**

This is the first course in a two-quarter sequence presenting the theoretical foundations of modern finance. Topics covered include financial price theory, the theory of financial management (capital structure, dividend policy and capital budgeting), an introduction to agency theory and an introduction to portfolio theory. PREREQUISITE(S): FIN 523 and FIN 555.

**FIN 618 CAPITAL MARKETS AND CORPORATION FINANCE II (PREREQ(S): FIN 553 AND FIN 617)**

The second course in a two-course sequence for students in the M.S.F. program. This course builds on the foundation set in FIN 617. Applications of financial theory, to financial management. PREREQUISITE(S): FIN 553 and FIN 617.

**FIN 662 FINANCIAL ENGINEERING AND RISK MANAGEMENT (PREREQ(S): FIN 617, FIN 618, FIN 527 & FIN 528)**

A case course in financial risk management and the choice and design of risk management tools. Students will solve cases involving the use of options, swaps and other derivative instruments by firms, investors, investment bankers. PREREQUISITE(S): FIN 617, FIN 618, FIN 527 & FIN 528

**FIN 697 RESEARCH SEMINAR IN FINANCE (PREREQ(S): FIN 617, FIN 618 & FIN 662)**

Will develop basic research skills and improve students' written and oral presentation skills. Students will present and critique research papers and develop their own research topics. PREREQUISITE(S): FIN 617, FIN 618 & FIN 662.

**FIN 798 SPECIAL TOPICS (PREREQ(S): DETERMINED BY INSTRUCTOR)**

Content and format of this course are variable. In-depth study of current issues in finance. Subject matter will be indicated in class schedule. Offered variably. PREREQUISITE(S): Determined by instructor.

**FIN 799 INDEPENDENT STUDY (PREREQUISITE(S): DETERMINED BY INSTRUCTOR)**

Available to graduate students of demonstrated capability for intensive independent work in finance. PREREQUISITE(S): Determined by instructor.

## **COMPUTER GRAPHICS**

**GPH 425 SURVEY OF COMPUTER GRAPHICS**

Expression of visual intent through geometry and procedure. A survey of basic 3D techniques, including interaction of light and color. Visual effects of rendering, texturing, and lighting algorithms. Procedural modeling techniques and an introduction to procedurally-based texturing and animation. PREREQUISITE(S): CSC 212 or equivalent

**GPH 436 FUNDAMENTALS OF COMPUTER GRAPHICS**

(Formerly CSC 436) An accelerated introduction to the graphics development environments and to graphical programming. Provides an in depth discussion of the basic mathematical language of computer graphics: vectors, transformations, homogeneous coordinates and their associated data structures. Advanced topics will include sampling theory and interpolation. Also provides a basic introduction to industry standards in graphics development, including specifying transformations and viewing parameters. PREREQUISITE(S): CSC 393 and MAT 150.

**GPH 438 COMPUTER ANIMATION SURVEY**

(Formerly CSC 438) Survey of methods used in computer animation. This course uses commercially available software packages to teach techniques for animation and digital video production. The techniques covered include storyboarding, key frame animation, audio and video editing. PREREQUISITE(S): GPH 469 or GPH 470.

**GPH 448 COMPUTER GRAPHICS SCRIPTING**

Covers the use of scripting to generate computer graphics and animation. Emphasis on the benefits and differences of scripting languages compared to conventional graphics programming. Using commercially available scripting environments, students will generate complex graphics and animations that would not be possible with the conventional user interface. PREREQUISITE(S): GPH 438.

**GPH 469 COMPUTER GRAPHICS DEVELOPMENT**

(Formerly CSC 469) Basic graphics architecture. Coordinate systems. Three-dimensional representations and transformations. Simple visible-surface algorithms. Introduction to illumination. Gouraud and Phong shading. Antialiasing. Texture

mapping and elements of animation. Students create a graphics package using a high-level graphics API such as OpenGL. PREREQUISITE(S): GPH 436

**GPH 536 SMOOTH SURFACE MODELING FOR GRAPHICS AND ANIMATION**

Parametric curves and surfaces. Continuity of curves and surfaces. Hermite, Bezier, B, and Catmull-Rom splines. Integer, adaptive and interactive generation of curves and surfaces. Surface subdivision. Quadric surfaces. Surface use in animations. PREREQUISITE(S): GPH 469.

**GPH 539 ADVANCED RENDERING TECHNIQUES**

(Formerly CSC 539) Texture and environment mapping. Shadows. Ray tracing. Radiosity. Advanced illumination models. Elements of animation. (PREREQUISITE(s): GPH 438 or GPH 469).

**GPH 560 MODELING SPACES**

The digital design and modeling of environmental spaces with attention to human use parameters. PREREQUISITE(S): any GPH 400-level course or consent of instructor.

**GPH 565 DESIGNING FOR VISUALIZATION**

Sources of graphical integrity and sophistication. Data-Ink maximization. Data density. The use of color to enhance features in data sets and the communication of information. Effective use of space and time. Use of 3D techniques to display multi-dimensional data. The use of isosurfaces and volumetric techniques to display features of data sets. Students will use a programmable system to produce their visualizations and will learn how to use procedural techniques to express graphical intent. (Only one of GPH 570 and GPH 565 may be taken for credit) Prerequisites GPH 448 and HCI 470

**GPH 570 VISUALIZATION**

(Formerly CSC 570) Reconstruction techniques. Voxel classification and isosurface generation. Spatial set operations. Projections of higher-dimensional data sets. Data feature enhancement. False color mapping. Survey of applications in science, engineering and medicine. PREREQUISITE(S): GPH 469.

**GPH 572 PRINCIPLES OF COMPUTER ANIMATION**

(Formerly CSC 572) This course will cover a range of topics in introductory 3D Computer Animation. Topics covered will include key framing, interpolation, hierarchies, inverse kinematics, particle systems, and the basics of physically based simulation and modeling. PREREQUISITE(S): GPH 469.

**GPH 574 COMPUTER GAMES**

(Formerly CSC 574) Concept and character development, storyboarding, prototyping, testing and implementation. Interaction techniques. Optimization of lighting and texturing. Discussion of relevant hardware and peripherals. PREREQUISITE(S): GPH 469.

**GPH 575 ADVANCED GRAPHICS DEVELOPMENT**

Survey of standards and current modular technology for 2D and 3D graphics software development. Use of software development toolkits to create "plug-ins" and other modularly organized functionality enhancements for selected commercially available graphics packages. PREREQUISITE(S): GPH 448 and GPH 438.

**GPH 576 ARTIFICIAL INTELLIGENCE IN COMPUTER GAMES**

The course introduces Artificial Intelligence (AI) topics applied to computer games. No previous knowledge of AI will be assumed. The course concentrates of development of

applications that guide game objects in 2D (3D) space. Basic AI architectures and techniques are introduced. Implementation of a game AI engine will be discussed. Prerequisites: GPH 469

#### **GPH 595 TOPICS IN GRAPHICS**

May be repeated for credit. PREREQUISITE(S): Permission of instructor.

### **GRADUATE SCHOOL OF BUSINESS**

#### **GSB 450 PROFESSIONAL PRESENTATION PRACTICUM (PREREQ: GRADUATE STANDING)**

This is a non-credit course required of all students enrolled in the M.B.A, M.S.A, M.Acc and M.S/M.I.S. program and should be taken in the early portion of the program. There are no waivers of this requirement. The course gives students the opportunity to develop skills necessary to deliver clear, interesting and effective presentations. Attention will be directed to the techniques of analyzing an audience, organizing one s presentation, using visuals and handling challenging questions. The methods of instruction will include practice sessions, videotaping, group feedback, self-assessment, with review and coaching on an individual basis. PREREQUISITE(S): Graduate Standing.

#### **GSB 520 ANALYTICAL METHODS**

This course is designed to provide the student with more advanced methods in quantitative analysis. Topics covered include hypothesis testing, probability, correlation analysis and multiple regression. This course will be offered at least twice a year.

#### **GSB 540 GREAT IDEAS, BUSINESS AND SOCIETY (CROSS-LISTED AS MLS 452) (PREREQ: GRADUATE STANDING)**

An in-depth study, using primary sources of the basic ideas, aspirations, values-goods in the highest sense-which humanity strives to attain and which constitutes fundamental and challenging demands on the world of business and its managers and their policies and decision. (Cross-listed with MLS 452.) Offered variably. PREREQUISITE (S): Graduate Standing.

#### **GSB 599 STRATEGIC ANALYSIS FOR COMPETING GLOBALLY (SEE DESCRIPTION FOR PREREQUISITES)**

This capstone course views the impact of contemporary issues on corporate strategy. Competitive, cultural, social and ethical issues are examined within the context of a global business environment. The course content emphasizes identifying strategic alternatives, developing corporate and business strategies, and understanding the role of functional activities and organizational processes from a strategic viewpoint. The process of the course involves team interaction, problem-solving, group decision-making, written reports and oral presentations. PREREQUISITE (S): ACC 500, MGT 500, MGT 502, BLW 500, ECO 500, ECO 509, IB 500, ACC 555, ECO 555, FIN 555, MGT 555, MIS 555 & MKT 555.

#### **GSB 600 CANDIDACY CONTINUATION**

A non-credit registration that allows students to continue to use DePaul facilities such as the library, Career Development Center and the computer lab while not registered for credit-earning courses.

**GSB 611 RETURN DRIVEN STRATEGY (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOR CONSENT)**

This course provides frameworks that will enable Kellstadt students to make a significant impact on the future of their organizations. The seminar focuses on Return Driven Strategy including the 11 tenets of successful business strategy, leveraging genuine assets, significant forces of change and strategic valuation. This seminar will focus on a deep dive analysis of the strategies and successful value creation of great companies. Each student will participate in a team project to apply the strategy tenets of Return Driven Strategy to an organization. Participants will benefit from the study of CSFB HOLT performance and valuation models under special permission from Credit Suisse First Boston's equity Research Group. They will also gain special access to research in the field of business strategy and valuation. Finally, the seminar driven course will include an executive seminar co-sponsored with the Center for Corporate financial Leadership (CCFL) as part of the standard curriculum. This course is co-designed and co-taught by Dr. Keith Howe and Dr. Mark L. Frigo, and Joel Litman, Clinical Professor of Business Strategy at DePaul's Kellstadt Graduate School of Business and Director in Equity Research at Credit Suisse First Boston. Pre-requisites: ACC 500, ACC 555, FIN 555 or Instructor Consent.

**GSB 621 STRATEGY EXECUTION FRAMEWORKS (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOR CONSENT)**

Business execution frameworks, such as the Balanced Scorecard and Value Based Management (VBM) are used by companies to turn their strategic plans into action, And help ensure execution of intended activities. Confusion can exist between what Exactly constitutes the execution process and what makes up the strategic planning and strategy development processes. This course will provide MBA candidates with an understanding and working skill-set for linking strategy to execution. It will also enable students how to recognize flaws in corporate management systems in this area. Further, it will provide them with the background to evaluate the quality of their business execution systems, and identify opportunities for improvement. The course is linked tightly to Return Driven Strategy.

While there is not specific business execution system that can be recommended in every situation, two general schools of thought have emerged and will be highlighted, focusing on the main principles and examples:

- " Balanced scorecard and the use of Strategy Maps
- " Value-Based management, and the interrelationship of value drivers

Both financial and non-financial quantitative measures are examined in detail in actual organizations. Specific execution initiatives in popular use by organizations will also be studied including:

- " Six Sigma, Lean Manufacturing, Total Quality Management (TQM)

The seminars and research projects focus on studying successful companies and how they execute on their business strategies. Further, a survey of companies that employ execution strategies without good business strategy, and the results, are also investigated. Each student will participate in team projects to understand these systems.

The Instructors:

This course is co-designed and co-taught by Dr. Mark L. Frigo, Eichenbaum Foundation Distinguished Professor of Strategy and Leadership, and Joel Litman, Clinical Professor of Business Strategy at DePaul's Kellstadt and director in Equity Research at Credit Suisse First Boston. They have been combining their efforts in the research, study, and development of business strategy models and frameworks for execution and value creation and have assisted a wide range of public and private companies in the application of these concepts.

**GSB 631 STRATEGIC FINANCIAL ANALYSIS (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOE CONSENT)**

This course is designed for all MBA students seeking to develop skills in strategic financial analysis. The course provides a deep, unabashed evaluation of corporate performance with a focus on traditional and cash-based measures, and strategic applications. Understanding the strengths and weaknesses of various types of financial analyses is a requirement for designing and developing business strategy, business execution systems, and understanding of the performance of the company.

Key managerial questions will be investigated in the course: When should a business grow? When is growth meaningless to investors? Why does an increase in net income, even over decades, still result in stock price drops? Why do companies report record Return On Equity amidst abysmal stock returns? Why and when is stock price BAD for Measuring managerial performance? Corporate managers today are plagued by these questions, leaving them to believe in market irrationality, or simply "the market doesn't understand my company".

The course will be driven by actual review and evaluation of company financial statements, using of several types of practical financial analysis methods and tools. The course provides deep insights into the world of investment analysis, corporate performance measurement, and strategic planning. This course will be useful for MBA candidates destined for higher levers of corporate management, management consulting, investment banking, equity research, or money management.

This seminar-driven course is co-designed and co-taught by Dr. Mark L. Frigo, Eichenbaum Foundation Distinguished Professor of Strategy and Leadership, Dr. Keith M. Howe, Scholl Professor of Finance, and Joel Litman, Executive in Residence in The Center for Strategy, Execution and Valuation in the Kellstadt Graduate School of Business and Vice-President in Equity Research at Credit Suisse First Boston.

Prerequisites: ACC 500, ACC 555, FIN 555 or instructor consent.

**GSB 640 PROBLEMS IN ETHICS: ISSUES IN BUSINESS (CROSS-LISTED AS PHL 640) (PREREQ: GRADUATE STANDING)**

A seminar in business ethics that centers on theoretical, practical and pedagogical issues. (Cross-listed with PHL 640) Offered variably. PREREQUISITE(S): Graduate Standing.

**GSB 641 STRATEGIC VALUATION (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOR CONSENT.**

This course surveys valuation methods, forecasting techniques, and practical methods for driving valuations from strategic corporate analysis. The course shows the link between strategic analysis and valuations - converting our qualitative understanding of company initiatives into quantitative forecasts and valuation models. The guiding principles for developing valuation models, and the tools and techniques for enhancing that analysis are introduced. This course builds a skillset for evaluating other valuation models and a first-hand experience in building models for various companies in differing settings. The course differs from traditional treatments in its focus on the actual building of valuation models directly from financial statements and the valuation projects based on real-time data. This course is co-designed and co-taught by Dr. Keith Howe and Dr. Mark L. Frigo, and Joel C. Litman, Clinical Professor of Business Strategy at DePaul's Kellstadt Graduate School of Business and Director in Equity Research at Credit Suisse First Boston. They have been combining their efforts in the research, study, and development of business strategy models and frameworks for execution and value-creation and have assisted a wide range of public and private companies in the application of these concepts. Prerequisites: ACC 500, ACC 555, FIN 555 or instructor consent.

**GSB 650 RELIGIOUS ETHICS AND ECONOMICS (CROSS-LISTED AS PHL 650 & MLS 442) (PREREQ: GRADUATE STANDING)**

This course will examine the thinking of social scientists, philosophers and theologians on the impact of religious values and institutions, on the origin and development of American capitalism and its relevance to contemporary business ethics. (Cross-listed with PHL 650 and MLS 442) Offered variably. PREREQUISITE(S): Graduate Standing.

**GSB 793 INTERNSHIP**

This is a unique opportunity in which knowledge gained in the classroom can be applied to an actual business environment. The intern will be immersed in a stimulating environment with a pool of established resources in industry or government. PREREQUISITE(S): Permission.

**GSB 798 SPECIAL TOPICS (PREREQ: AS INDICATED IN CLASS SCHEDULE)**

Content and format of this course is variable. An in-depth study of current issues. Subject matter will be indicated in class schedule. PREREQUISITE (S): As indicated in class schedule.

## **HUMAN COMPUTER INTERACTION**

**HCI 402 FOUNDATIONS OF DIGITAL DESIGN**

Shape, line on two-dimensional surfaces. Color. Composition rules as they apply to digitally created documents. Digital manipulation of two-dimensional images. Use of commercially available draw and paint tools to create two-dimensional designs.

**HCI 422 MULTIMEDIA**

Multimedia interface design. Underlying technological issues including synchronization and coordination of multiple media, file formats for images, animations, sound and text. Hypertext. Information organization. Survey of multimedia authoring software. Topics in long distance multimedia (World Wide Web). Students will critique existing applications and create several multimedia applications. PREREQUISITE(S): CSC 416 or HCI 440.

**HCI 423 INTERNET MULTIMEDIA**

(Cross-listed as ECT 423) Design and prototyping of multimedia applications for delivery via the Internet. Survey of low-bandwidth file formats for images, sound, and animation. Bandwidth reduction techniques and tools. Discussion of client side and server side allocation of responsibility. Authoring tools. Students will create and evaluate several small applications. PREREQUISITE(S): HCI 440 or ECT/HCI 441.

**HCI 430 PROTOTYPING AND IMPLEMENTATION**

Introduction to creating executable prototypes for interactive systems. Overview of modern user interface programming tools. The emphasis is on creating testable prototypes and evaluating them using technologies such as VB.NET and Access. Both stand-alone and Web-based applications are addressed. Students create a prototype for a predefined system, evaluate the prototype, redesign the system as necessary, and convert it to a final working system. Students prepare written documents describing their activities and present the final results to the class. PREREQUISITE(S): IT 236 and HCI 440.

**HCI 432 USER CENTERED INTERACTIVE WEB DEVELOPMENT**

Analysis, design, and development of interactive WWW sites. Evaluation of WWW interactions in terms of user-centered design and appropriateness of application. Use of commercially available development tools to exploit client-side technology. Production and preparation of multimedia elements for web distribution. PREREQUISITE(S): HCI 430 and HCI 440.

**HCI 440 USABILITY ENGINEERING**

The user-interface development process. Introduction to methods for practicing user-centered design including user and task analysis, user interface design principles and testing using low-fidelity prototypes. PREREQUISITE(S): IT 130 or Graduate Standing.

**HCI 445 ANALYSIS AND DESIGN FOR HCI**

This course provides students with the skills necessary to acquire and organize user information for the purpose of developing task and systems analyses. Topics covered include survey construction and administration, structured observation, interviewing, and participatory design. Students learn to evaluate and organize user information toward making analysis and design decisions. Human communication and presentation skills are developed. PREREQUISITE(S): IT 223

**HCI 450 FOUNDATIONS OF HUMAN-COMPUTER INTERACTION**

Application of engineering and psychological theory to the design of computer systems. Overview of applicable research methods. Sensation, cognition, decision making, display and control design. Overview of workspace design including biomechanics, work physiology, stress and workload. PREREQUISITE(S): IT 223.

**HCI 460 USABILITY EVALUATION METHODS**

Survey of evaluation methods that can be applied to user interfaces. Methods include expert inspections, walkthroughs, usability testing and analytical approaches. Students evaluate existing systems by applying some of these methods. PREREQUISITE(S): IT 223 and HCI 440.

**HCI 470 DIGITAL PAGE FORMATTING I**

Problem-based applications of perceptual and communication principles to the presentation of on-line and off-screen pages. Includes experience with industry standard vector, raster and formatting software. PREREQUISITE(S): HCI 402, ART 105, or equivalent.

**HCI 471 DIGITAL PAGE FORMATTING II**

Client-based applications for formatting in multi-page screen environments. Includes experience with industry standard multi-media software. PREREQUISITE(S): HCI 470.

**HCI 511 DESIGNING FOR DISABILITIES**

Designing computer-based solutions for problems faced by people with disabilities. Designing for both physical and cognitive disabilities. Solutions include text enlargement, enhanced audio, custom presentation of information, and unique input devices. PREREQUISITE(S): HCI 440 and HCI 460.

**HCI 512 DESIGNING FOR VISUALIZATION**

Sources of graphical integrity and sophistication. Data-Ink maximization. Data density. Color and information. Effective use of space and time. PREREQUISITE(S): HCI 440 and HCI 460.

### **HCI 513 DESIGN/STRATEGIES FOR INTERNET COMMERCE**

(Cross-listed with ECT 555) An integrated study of design, technical, and strategic issues for Internet commerce. Web analysis, design and publishing. Visual, textual and content organization, response time, usability testing. Authorizing tools and administering web server. Internet database servicing. Internet service providers and pricing. Digital cash and encryption. Impact on the value chain, intermediation, and market structure. Strategies for mass customization, interactive marketing, and support for collaborative work. PREREQUISITE(S): ECT 353 and IS 422, or HCI 430, or advanced standing in another program.

### **HCI 530 USABILITY ISSUES FOR HANDHELD DEVICES**

This seminar will cover the theoretical and practical issues of usability for handheld devices (cell phones and PDAs). Students will analyze how restricted displays and input modalities constrain applications on these platforms, and how these constraints factor into the design process. PREREQUISITE(S): HCI 440 and HCI 430 or CSC 418.

### **HCI 540 USER INTERFACE IMPLEMENTATION I**

Converting prototypes into running systems. The focus is on using a User Interface Management System, learning the underlying programming language, and the underlying programming environment. Students work on a project that requires pushing the UIMS beyond its normal limits. TAE+, Galaxy, DevGuide, C, C++, Tcl/tk. Students present their final results to the class. PREREQUISITE(S): CSC 418 or HCI 430.

### **HCI 560 INFORMATION TECHNOLOGY TRAINING AND USER SUPPORT (PREREQUISITE: HCI 440 AND HCI 460)**

Cross-listed with ITS 560. Designing and delivering information technology training in the workplace, both instructor-led and computer-based. Theories of adult learning. Preparing, presenting, and evaluating courses. Training management systems. Performance support systems and job aids. PREREQUISITE(S): HCI 440 and HCI 460.

### **HCI 590 TOPICS IN HUMAN-COMPUTER INTERACTION**

This is an independent study course. PREREQUISITE(S): Completion of the HCI core courses or consent of the instructor. May be repeated for credit.

### **HCI 594 HUMAN-COMPUTER INTERACTION CAPSTONE**

HCI 594 provides an opportunity for students to apply all of the skills they have learned on one comprehensive project. Multidisciplinary teams design, evaluate, and implement a user interface intensive project. Students prepare written documents describing their activities and present the final results to the class. PREREQUISITE(S): Completion of the HCI core courses or consent of the instructor.

### **HCI 690 RESEARCH SEMINAR**

PREREQUISITE(S): Instructor consent.

## **HUMAN DEVELOPMENT AND LEARNING**

### **HDL 500 INTEGRATIVE SEMINAR**

(0 credit) This seminar provides students with the opportunity to explore the subjective experiences of teaching and learning. Modeled after Donald Schon's "reflective practice" approach, participants experience, through personal reflection, how deeply involved

they are in the learning situation they seek to understand and influence. It is through reflecting on the nature of the experiences that the participants begin to explore how school experience is formed and shaped.

#### **HDL 501 INVESTIGATIONS IN HUMAN DEVELOPMENT AND LEARNING**

Each student's own place of work constitutes the primary context of these investigation studies. Through such means as personal observation and examined experience, each student will complete a project which examines the interaction between human development and cultural contexts, with implications for learning and being an educational leader.

#### **HDL 502 INDEPENDENT STUDY IN HUMAN DEVELOPMENT AND LEARNING (PREREQ.: PERMISSION)**

PREREQUISITE(S): Permission of the instructor.

#### **HDL 510 PERSONALITY DEVELOPMENT AND DIFFERENCE**

This class examines the course of personality development from infancy through the ages, drawing upon contemporary psychoanalytic formulations, developmental research findings, and cultural studies, as lenses through which to view behavior and understand meaning. For education, the course emphasizes facilitating the emerging of a sense of self that is vital and effective, and flexible in interpreting experiences of self and difference in the world.

#### **HDL 520 LIFE COURSE PERSONALITY DEVELOPMENT**

This class examines the course of personality development from infancy through older adulthood, drawing upon contemporary psychoanalytic formulations and findings of developmental research as lenses through which to view behavior, understand developmental processes, and as perspectives applicable to the process of education. A portion of the class is reserved for seminar participants to examine human development based on case studies of personal observations and experiences.

#### **HDL 530 THE LEARNING PROCESS: PSYCHOLOGICAL AND NEUROLOGICAL ISSUES**

The major forms of learning difficulties encountered among children are addressed, including those resulting from social, emotional, neurological or cognitive factors. Implications for educational planning is emphasized.

#### **HDL 540 SUBJECTIVITY AND LEARNING**

This course focuses on understanding the subjective aspects of experience and the impact on learning. Issues related to emotional, social and behavioral functioning will be addressed as they relate to cognition, curriculum, climate, and relationships. Psychoanalytic theories and techniques will provide a foundation for this process. Implications for the child, family, teacher and principal will be considered.

#### **HDL 550 THE FAMILY AND LIFE COURSE DEVELOPMENT**

This seminar provides an introduction to the study of the family as a social system and the processes through which families influence behavior. Students focus on developing skills in understanding patterns of interaction and in identifying ethnic, cultural and other unique sources of variation.

#### **HDL 560 DYNAMICS OF GROUPS AND ORGANIZATIONS**

This course examines the psychosocial dynamics of behavior in groups and the impact on the development of organizations. Principles of children and adult groups within diverse contexts are examined with implications for learning and leading. Attention is also given to the development of skills associated with understanding group processes

within educational contexts, complete with the influence of individuals on group processes, and the influence of group membership on individual behavior.

**HDL 599 THESIS RESEARCH IN HUMAN DEVELOPMENT AND LEARNING (PREREQ.: SCG 410/APPROVAL)**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

**HDL 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 fee per quarter.

**HDL 601 PRACTICUM IN HUMAN DEVELOPMENT AND LEARNING (PERMISSION REQUIRED)**

This practicum provides opportunities for students to experience the range of issues related to human development and learning in a different context. PREREQUISITE(S): Permission of the instructor.

**HDL 606 REVIEW OF LITERATURE**

(0 credit) This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their discipline and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases.

**HDL 607 INTEGRATIVE PAPER**

(0 credit) Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it related to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of theory or conversely, developing/refining a theory based on investigations made in the field.

**HUMAN SERVICES AND COUNSELING**

**HSC 400 TECHNOLOGY IN COUNSELING (PREREQUISITE IS NEW STUDENT ORIENTATION)**

This course will introduce students to technology used in counseling. Focus will be on the use and selection of appropriate software and electronic resources for counseling. Attention will be paid to evaluative criteria to assess utility. (prerequisite New Student Orientation)

**HSC 404 CHILD GROWTH AND DEVELOPMENT: THE EARLY YEARS**

Students will examine theories and research related to the physical, emotional, social, cognitive and spiritual development of young children from conception to age eight with emphasis placed on the first three years of life. Within a multicultural perspective, students will develop skills and understandings that will help them delineate supports and challenges for healthy child growth and development within the social context of the families and communities in which young children live.

**HSC 405 LIFE SPAN: ADOLESCENTS THROUGH THE AGING YEARS**

This course focuses on the dynamics of adolescent and adult growth and development from spiritual, biosocial and psychological perspectives. It will provide basic processes for intergenerational programming in early childhood education. It focuses on community referral skills for those persons proceeding toward aging as well as the identification of developmental needs with adolescents and adults. Emphasis is placed on attitudes of adolescents to aging as well as the identification of developmental needs throughout this time of the life cycle. Attention is paid to specific developmental counseling skills needed to meet these needs.

**HSC 406 CHARACTERISTICS OF THE HIGH-RISK YOUNG CHILD**

Students will examine the predictors and consequences of developmental risk in early childhood and contrast the concept of risk with the status of developmental delay or disability. The distinctions among established risk, biological risk or medical risk, environmental risk, and the cumulative effect of multiple risk factors will be illustrated. An ecological approach to describing developmental risk and options for intervention and/or education will be introduced and practiced. Specific areas of environmental risk will be examined in detail, with consideration of the impact on the young child's development. These will include the effects of poverty, chronic illness, adolescent parenting, child abuse, parental mental illness and/or substance abuse and siblings with disabled or chronically ill child.

**HSC 407 HISTORY AND PHILOSOPHY OF EARLY INTERVENTION PROGRAMS**

Students will trace the evolution of early intervention programs through historical and philosophical writings. Content included will be descriptions of theoretical models that form the basis of early intervention practices today. Central early intervention issues such as ethics, parent partnerships, service delivery options, transdisciplinary team functions, multicultural factors and social policy will be emphasized.

**HSC 408 EARLY INTERVENTION STRATEGIES AND RELATIONSHIPS**

This course will focus on the normal development from conception through infancy to age five years. Emphasis will be placed on the biological and environmental factors that may place children at-risk, physiologically, emotionally, intellectually or socially at different stages of their development. Attention will be given to the importance and mutuality of the relationship between the infant and the primary caregiver. Issues related to the infant's temperament and parent's response to infants with special needs will be addressed. The implications for center and home based early intervention programs, including early intervention strategies and techniques, will be discussed.

**HSC 409 CHILD, FAMILY AND MULTICULTURAL COMMUNITY (COREQUISITE(S) T&L 401 FOR ECE AND T&L STUDENTS)**

This course focuses on the development of the child from infancy through early childhood, within the context of the particular family and culture in which the child is being raised. Social systems, psychodynamic and developmental theories will be utilized in this courses. Emphasis will be placed on the unique role the varying family structures, cultural norms and community environments can play in the growth and development of the child. Particular attention will be paid to the challenges faced by teachers and other professionals in early intervention in assessing children's need and providing services which are reflective of the child's development within his/her cultural nad community context. Emphasis will be on building those family, institutional and community partnerships what will support the healthy growth and development of young children, in the IFSP planning process. COREQUISITE(S): T&L 401 for ECE and T&L students.

### **HSC 410 ADMINISTRATION/SUPERVISION OF HUMAN SERVICES AND COUNSELING PROGRAMS**

This course focuses on issues of administration and supervision in agency, public and private schools and other settings for families of infants, toddlers and young children with special needs. Particular attention will be given to transdisciplinary team membership, team development, clinical supervision models, parent partnerships and differentiated staffing issues. Management processes such as procedures for decision making, resource management, space, licensing and accreditation will be incorporated. Concern for child advocacy processes in administration will be included.

### **HSC 440 FAMILY AND CHILD ASSESSMENT TECHNIQUES**

Students will participate in the study, use and evaluation of early childhood assessment, methods and tools that are appropriate for young children of different ages from culturally and socio-economically diverse backgrounds. Ways of involving parents in early childhood assessment will be stressed, particularly in video-conferencing parents and their developmental parenting skills with their children, case histories, case conferences and home visits. How to observe and assess children individually, in groups and in their family systems will be included. Clarification of roles on a transdisciplinary team assessing the child will be made. Emphasis on assessment of play-based techniques will be included. Networking with community services after assessment will be explored. (This course is taught on site at Maryville, working directly with children.)

### **HSC 451 LEGAL AND ETHICAL ISSUES IN COUNSELING**

Professional counseling involves an interplay of ethics, personal values and legal implications of practice. This course initially attempts to focus on personal values and allows for the student to reflect upon his/her personal value systems. Several ethical codes related to the profession are studied so that the students will have the knowledge of professional ethical practice. An examination of local and federal laws regarding the interplay of these three components will be examined. The students, in the course, will engage in small groups, value clarification exercises, role-playing with lectures, video technology and guest speakers.

### **HSC 452 INTRODUCTION TO THE COUNSELING PROFESSION**

Upon completion of this course each student will be able to: 1) analyze human service organizations in terms of their mission, vision, beliefs, current goals and strategies, organizational culture, organizational structures and leadership; 2) utilize visionary, strategic and operational planning processes to develop and organize a human services organization; 3) design various assessments of service outcomes of human services organizations; and 4) judge his or her effectiveness as a member of both a learning community and planning team.

### **HSC 453 HISTORICAL AND DIVERSE SOCIAL FRAMEWORKS IN HUMAN SERVICES AND COUNSELING**

Upon completion of this course each student will be able to: 1) develop an expanded/transformed vision of himself or herself as both a person and as a human services professional from that which she or he had at the beginning of the course; 2) relate his or her personal and professional development to popular theories of life and career development; 3) evaluate his or her performance in a life and career counseling experience both as a client and as a counselor; 4) establish both a professional network of colleagues and a professional library of human services information which will be of use in future human services work; and 5) understanding of ethics in counseling profession.

**HSC 454 CAREER COUNSELING**

Ways to assist the individual to choose, prepare for and progress in a career. Vocational testing, sources for occupational information are described. Computer guidance programs designed for career exploration will be studied. Also, the study of vocational behavior in relation to career patterns with special attention to the analysis of empirical data and theories pertaining to vocational choice will be considered.

**HSC 455 THE ADMINISTRATION OF HUMAN SERVICES AND COUNSELING PROGRAMS**

The administration of human services programs, an interdisciplinary approach to meeting needs, describes how administrators and counselors can develop skills and competencies to employ, assign and supervise their staff. An analysis of various supervisory techniques is made.

**HSC 456 COUNSELING THE COLLEGE-BOUND STUDENT**

Designed to assist professionals in the human services and counseling areas in formulating a deeper perspective of the college counseling process. The use of profile types of colleges and admission procedures, testing, scholarships, advance placement, the preparing of the school report and many other items will be included in the instruction. The workshop approach will be used in the final two weeks of the course to put into practice concepts, skills and techniques learned earlier.

**HSC 457 SEMINAR: IMPROVING PARENT-CHILD RELATIONSHIPS****HSC 458 GROUP COUNSELING**

Study and ethics of group process, group theories, problems such as conflict resolution, leadership and membership styles re-examined. The class engages in a regular group experience. Opportunity to observe and participate in group work is provided. Criteria and formulation for conducting workshops with group process is considered.

**HSC 459 CLINICAL STUDIES IN HUMAN SERVICES AND COUNSELING (PREREQUISITE(S): HSC 459)**

The purpose of this course is to provide students with opportunities to 1) develop and refine counseling skills; 2) to study the format of case studies; 3) conduct individual assessments under supervision; 4) familiarize themselves with Human Service agencies in the Chicago area. Through the use of videotapes, role playing and other techniques, student will be given direct feedback as to their performance of counseling skills. The course requires extensive field work. PREREQUISITE(S): HSC 467 and advanced standing in the program (completion of 6 or more courses in the HSC program).

**HSC 460 GUIDANCE IN THE ELEMENTARY SCHOOL**

Guidance in the Elementary School. A study of the philosophy, concepts and rationale which undergird elementary school guidance. Principles and practices as they relate to the guidance program are presented. The student is acquainted with the role of the counselor and is introduced to the various facets of the elementary school program. Attention is given to the development of guidance techniques in the classroom and group guidance.

**HSC 461 TESTING AND APPRAISAL**

Detailed analysis of intelligence, aptitude, personality, and achievement tests used with groups and individuals. The course is intended to familiarize students with various appraisal procedures and their utilization. Attention is given to the development of the institutional testing program.

### **HSC 462 COUNSELING THEORY AND PRACTICE FOR HUMAN SERVICES**

### **HSC 463 TECHNIQUES OF HUMAN SERVICES AND COUNSELING IN ELEMENTARY/MIDDLE SCHOOL**

A study of the philosophy, concepts and rationale which undergird elementary school guidance is known by the student. Principles and practice as they relate to the guidance program are presented. The student is acquainted with the role of the counselor and is introduced to the various facets of elementary school program including family partnerships, violence prevention, grief counseling and career guidance. Attention is given to the development of guidance techniques in child and art therapy, groups, and classroom.

### **HSC 464 CONSULTING IN HUMAN SERVICES**

Various models of consultation will be explored in Human Services. Use of case studies, role-playing, visits to human service agencies using the consultation process to observe the consultant's role will be included. Stress on the facilitation of communication and dynamics in interpersonal relationships will be emphasized.

### **HSC 465 PRINCIPLES AND PRACTICES OF HIGHER EDUCATION PERSONNEL**

This course will include an overview of principles and practices of higher education personnel work, with an emphasis on management theories and strategies. Selected topics, issues and services will be presented by professionals in higher education. This course will also be concerned about international and multicultural student issues.

### **HSC 466 ASSESSMENT AND TREATMENT OF CHEMICAL DEPENDENCY**

This course seeks to develop skills and understandings relevant to the assessment and treatment of chemical dependency. The major alternative assessment approaches and treatment interventions for chemical dependency are surveyed and analyzed.

### **HSC 467 COUNSELING THEORIES**

The purpose of this course is to review counseling theories from affective, non-directive approaches to cognitive and behavioral approaches. The humanistic and existential frameworks in counseling will be reviewed. Techniques and process derived from these various counseling frameworks will be used in classroom laboratory experiences with use of follow-up videotaping assignments. Models of normalcy as well as knowledge and use of the DSM IV-R (2000) and review of psychopathology, highlighting neurotic personality disorders will be considered. In counseling children, play and art therapy processes will be applied.

### **HSC 468 CURRENT ISSUES IN HUMAN SERVICES**

Topics related to early childhood intervention and family issues, such as bonding and attachment, child abuse, neglect, incest, parents' needs and infants, prenatally-exposed children-at-risk, fathers and babies, as well as other current topics will be presented in a high involvement and in-depth seminar format, including outside speakers and tours. Each seminar will include assigned readings, paper and opportunities for students to link their conceptual understanding to practical experience. Four seminars will be required to fulfill course requirements.

### **HSC 480 INTRODUCTION TO HEALTHY AGING FRAMEWORKS**

### **HSC 481 ASSESSMENT AND COUNSELING TO HEALTHY AGING AND FAMILIES**

Assessment and Counseling to Healthy Aging and Families. This course will provide an overview of counseling skills, group processes and family therapy skills that will facilitate healthy aging persons and their families with intergenerational

communication. Different approaches to enhance interdependence and support including peer group counseling with cohorts, Life Review and Early Recollection assessment, as well as social network interventions will be introduced. Multicultural awareness, both in assessment (DSM IV, 1994) and family systems will be highlighted. Leisure, stress management and spiritual in the lives of the healthy aging will be discussed.

#### **HSC 482 MEETING THE HEALTH NEEDS OF OLDER ADULTS**

#### **HSC 483 AGING, HUMAN DEVELOPMENT AND HOLISTIC WELLNESS**

Aging, Human Development and Holistic Wellness. Adult and aging human development will be examined for adults 55 and older. There will be a particular emphasis on motor development and changes in motor behavior over the lifespan and the process that affect them. Physical, affective and social factors, along with functional neurological changes, will be addressed for a holistic view of the aging person. Plato calls it "functional unity." Discussion about myths and misperceptions of older adults will be included. A variety of fitness testing techniques will be presented for students to experience, both as a test administrator and someone being tested. Nutritional, social, medical aspects as well as recreational exercise and fitness will also be included.

#### **HSC 484 CURRENT ISSUES IN HEALTHY AGING**

#### **HSC 485 MEETING THE HEALTH NEEDS OF OLDER ADULTS**

Meeting the Health Needs of Older Adults. This course will provide an overview of key health issues faced by older adults and their families. There will be a study of approaches to identification and measurement of health needs. There will be discussions of appropriate clinical care professionals and settings for the diagnosis and treatment of common chronic health problems of older persons. Analysis of ethical issues related to the treatment of chronic and acute illness in older adults will be discussed. The topics will be discussed would include brain and psychological aspects in organic brain syndromes including Alzheimer's disease, acute, chronic and terminal illness, substance use and abuse, multicultural sensitivities to caring for the Aging, polypharmacy assessment, home visits and community partnerships was well as strategies in long term care and support systems for the caregiver.

#### **HSC 486 PRACTICA IN HUMAN SERVICES AND COUNSELING**

#### **HSC 487 INTRODUCTION TO HEALTHY AGING FRAMEWORKS**

Introduction to Healthy Aging Frameworks. This course will present evolving theories that focus on the healthy aging population. The demographics of aging including societal views of European, Latino, Asiatic, and American cultures will be examined. Historical and cultural philosophies of teaching the elderly will be included. Developmental frameworks including stage and role theories of the aging will be discussed. A section on expanding viewpoints on aging will examine the needs, roles and rights of the aging, the role of government in the care of the aging, health care's responsibility and community partnerships, and the ethical dilemmas for caregivers regarding the care of the aging person.

#### **HSC 489 PSYCHOPATHOLOGY**

This course will focus on a continuum of mental health with an emphasis on neurotic and psychotic deviations. Specific models and methods for assessing mental status, identification of abnormal, deviant or psychopathological behavior will be presented. The use of DSMIV-R (2000) ad Zero to Three Diagnostic Classification with its diagnostic categories will be utilized for assessment methodology. Specific attention will

be given to diverse cultural perspectives in diagnosis and assessment.

### **HSC 500 COMMUNICATION STRATEGIES FOR EFFECTIVE HUMAN INTERACTION**

#### **HSC 501 COUNSELING SKILLS**

This course examines oral communication skills as a dynamic in human relations. Through videotapes, role-playing and a variety of activities and experiences, students will explore ways to improve their own communication and counseling skills using the Ivey intentional interviewing approach. Feedback is given to the students, both in laboratory classroom exercises and in viewing videotape sessions. Skills emphasized include perception, verbal and nonverbal language, accurate and empathetic listening skills, focusing, thematizations, confrontation, conflict resolution and a process of directionality for change.

#### **HSC 512 CRISIS INTERVENTION (PREREQUISITES: HSC 451, HSC 452, HSC 467, HSC 501, HSC 458)**

This course will provide students with an understanding of the individual in crisis. Focus will be on the common characteristics and manifestations of crisis and address methods and techniques of crisis intervention. (prerequisites HSC 451, HSC 452, HSC 467, HSC 501, HSC 458)

#### **HSC 519 SPECIAL EDUCATION ISSUES FOR SCHOOL COUNSELORS (PREREQUISITES HSC 451 AND HSC 452)**

This course will introduce students to special education law including relevant statutes, cases, and regulations. Students will also learn about the development, monitoring, and implementation of IEPs. In addition, this course will address the student counselor's potential role in the evaluation, referral, monitoring, and consultation of student with special needs. (prerequisites HSC 451 and HSC 452)

#### **HSC 521 CONTEXTUAL DIMENSIONS OF SCHOOL COUNSELING**

This course will address the role of the school counselor and provide an understanding of the coordination of counseling program components as they relate to the school and the wider communities. Students will explore the various the roles of the school counselor as advocate, coordinator, teacher, programmer, consultant, information and referral agent, and counselor. The ASCA developmental approach to school counseling will be introduced and integrated throughout.

#### **HSC 522 DELIVERY OF DEVELOPMENTAL AND PREVENTION SCHOOL COUNSELING PROGRAMS (PREREQUISITES: SEE DESCRIPTION)**

This course will focus on the comprehensive development, delivery, and evaluation of school counseling programs based on the "Best Practices" model of the state and the three ASCA model domains: academic development, career development, and personal/social development. Students will learn strategies to integrate school counseling programs into the total school curriculum, to promote the use of counseling activities and programs, to plan for and present school counseling-related educational programs, and to gain knowledge of prevention and crisis intervention strategies. (Prerequisites HSC 451, HSC 452, HSC 467, HSC 501, HSC 458; 461; HSC 521)

#### **HSC 551 RESEARCH SEMINAR IN HUMAN SERVICES AND COUNSELING**

#### **HSC 552 PRACTICUM**

Practicum In Human Services And Counseling-Secondary

#### **HSC 553 INTERNSHIP IN HUMAN SERVICES AND COUNSELING I**

After the completion of fifteen courses, and consultation with one's advisor, the student-intern is assigned to an early childhood setting including schools, agencies, centers for young children. The student-intern functions under the joint supervision of a professionally qualified setting supervisor and a University clinical experience director for 150-300 clock hours of internship experience. A structured contract will include structured experiences expected of the student from both the setting and the University, signed by all parties, and used as an evaluative tool for the internship. During the internship the student-intern will complete a thesis/research project as part of the requirement for the Master of Arts degree. The thesis/research project is approved jointly by the internship supervisor and clinical experiences director. Ongoing reflective seminars will be part of the internship experience related to early childhood topics and counseling skills and processes.

#### **HSC 554 INTERNSHIP IN HUMAN SERVICES AND COUNSELING II**

This course is a continuation of Internship I. The student-intern continues with 150-300 clock hours experience under supervision of the setting supervisor and University clinical experience director using a structured contract. The thesis/research project using action-oriented research processes is completed and orals are required for the student seeking an M.A. degree.

#### **HSC 555 HUMAN SERVICES AND THE AGING PROCESS**

#### **HSC 556 COUPLES AND FAMILY COUNSELING**

This course focuses on providing theoretical formulations and practical illustrations applicable to the practice of marriage and family counseling. Students engage in role-playing, case study, and observation of counseling techniques. Skills expected in this course include understanding the process of marriage and family counseling and understanding the role of the counselor in the marriage and family setting. Students will learn to develop effective marriage and family strategies, and to conduct complete case analysis.

#### **HSC 558 INDEP STUDY IN HUMAN SERVICES AND COUNSELING (PREREQ: CONSENT OF INSTRUCTOR, CHAIR & ASSOC DEAN)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

#### **HSC 559 THESIS RESEARCH IN HUMAN SERVICES AND COUNSELING (PREREQUISITE(S): SCG 410 AND APPROVAL OF THESIS)**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

#### **HSC 560 PHYSICAL AND SEXUAL ABUSE OF CHILDREN**

#### **HSC 562 PRACTICUM IN HUMAN SERVICES AND COUNSELING-ELEMENTARY**

#### **HSC 569 THESIS RESEARCH IN MANAGING THE HUMAN SERVICES**

#### **HSC 572 PRACTICUM IN HUMAN SERVICES/COUNSELING- AGENCIES,HIGHER EDUC, FAMILY CONCERNS**

#### **HSC 582 PRACTICUM IN MANAGING THE HUMAN SERVICES**

#### **HSC 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter.

### **HSC 602 HUMAN SERVICES IN THE REPUBLIC OF IRELAND**

#### **HSC 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases. In other words, students will be able to ask and answer such questions as "What is known about? What are major issues and themes?"

#### **HSC 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate the, asking and answering questions about "how theories work."

### **HSC 658 PERSONNEL SERVICES IN BASIC ADULT EDUCATION**

### **HSC 659 COUNSELING IN BASIC ADULT EDUCATION**

## **HISTORY**

#### **HST 400 ISSUES IN HISTORIOGRAPHY**

Introduces historiography as the evaluation of historical arguments, with a focus on historical monographs and articles that examine one topic and propose a variety of interpretations of that topic.

#### **HST 401 HISTORICAL METHOD AND BIBLIOGRAPHY**

Introduces graduate-level historical research methods. Includes the study of interpretative strategies as well as a research and writing project based on analysis of primary sources.

#### **HST 402 COLLOQUIUM IN LATIN AMERICAN HISTORY**

PREREQUISITE(S):one 300-level course in Latin American history or consent of the instructor

#### **HST 403 COLLOQUIUM IN AFRICAN HISTORY (PREREQUISITE: CONSENT OF INSTRUCTOR)**

PREREQUISITE(S):one 300-level course in African history or consent of the instructor.

**HST 406 COLLOQUIUM IN ISLAMIC HISTORY**

PREREQUISTE(S):one 300-level course in Islamic history or consent of the instructor

**HST 407 COLLOQUIUM IN ASIAN HISTORY**

PREREQUISTE(S):one 300-level course in Asian history or consent of the instructor

**HST 408 COLLOQUIUM IN WORLD HISTORY**

PREREQUISTE(S):HST 401 or consent of the instructor

**HST 421 THE HISTORICAL DISCIPLINE**

This course introduces students to the fundamental concerns and skills necessary for the study of history at the graduate level. It does this by providing a "history of history," giving students an overview of the growth and development of the academic discipline of history, by addressing issues of methodology, historiography and historical philosophy, and by providing students with an awareness of current concerns, controversies, and debates in the discipline.

**HST 431 COLLOQUIUM IN AMERICAN HISTORY**

PREREQUISTE(S):one 300-level course in American history or consent of the instructor

**HST 435 COLLOQUIUM IN EUROPEAN HISTORY**

PREREQUISTE(S):one 300-level course in European history or consent of the instructor

**HST 497 INDEPENDENT STUDY (PREREQUISITE: APPROVAL OF INSTRUCTOR AND CHAIR)**

PREREQUISTE(S):approval of instructor and graduate director

**HST 499 THESIS RESEARCH (NOTE: THIS COURSE MAY BE TAKEN FOR VARIABLE CREDIT)**

Between four and eight hours credit to be determined by the department.

**HST 500 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. Non-credit. \$40.00 per quarter.

**INTERNATIONAL BUSINESS****IB 500 GLOBAL ECONOMY (FORMERLY ECO 556) (PREREQ: GRADUATE STANDING)**

This course is designed to be an introduction to the economic environment in which businesses operate. With the increasing interdependence of national economies and the growing role of global enterprises, the understanding of international economic issues is vital to decision-makers. The material covered will include both socio-cultural aspects and economic and financial dimensions of global business. Students should obtain a grasp of the basic theory as well as a knowledge of the major current issues in the global economy. PREREQUISITE: Graduate Standing

**IB 505 GEOPOLITICAL AND CULTURAL ISSUES IN INTERNATIONAL BUSINESS**

Analysis of major geographical and cultural conditions in those countries most involved in U.S. foreign trade. Guest lectures, comprehensive maps and pertinent media

presentations supplement weekly class discussion.

**IB 515 ACCOUNTING, AUDITING AND TAXATION ISSUES IN INTERNATIONAL BUSINESS**

This course covers the accounting, auditing and taxation issues that confront the general manager in international business. It includes coverage of the institutional background of international accounting; international aspects of financial and managerial accounting; financial and quality auditing (i.e. ISO 9000); and U.S. taxation.

**IB 520 INTERNATIONAL TRADE THEORY AND POLICY (PREREQ: ECO 555 OR EQUIVALENT)**

Modern theories of international trade: classical theory of comparative advantage, factor proportions theory, factor price equalization, application of welfare economics to international trade, including regional economic integration, commercial policy and tariff problems. PREREQUISITE(S): ECO 555 or equivalent.

**IB 521 INTERNATIONAL MACROECONOMICS (CROSS-LISTED AS ECO 558) (PREREQ: ECO 509 OR EQUIVALENT)**

This course analyzes traditional macroeconomic issues in a framework that explicitly allows for international trade and capital flows. Topics covered include exchange rate and balance of payments determination, the impact of international trade and capital mobility on domestic monetary and fiscal policy, fixed vs. floating exchange rate systems, exchange rate overshooting and other topics. PREREQUISITE(S): ECO 509 or equivalent.

**IB 525 ECONOMICS OF DEVELOPING COUNTRIES (PREREQ: ECO 555 OR EQUIVALENT)**

This course reviews models of economics development and some of the key issues in economic development including agricultural and rural development, population, economic growth, the role of government, health, education, income distribution, trade regime and policy, international capital flows and the environment, international trade and foreign resource flows. The course integrates country studies of selected developing economies and regions, cross-country statistical studies and theoretical tools drawn from the fields of microeconomics, macroeconomics, and international trade. PREREQUISITE(S): ECO 555 or equivalent.

**IB 526 COMPARATIVE ECONOMIC SYSTEMS (PREREQ: ECO 555)**

A study of the contrasting theories of socialism and capitalism. PREREQUISITE: ECO 555 OR EQUIVALENT

**IB 530 INTERNATIONAL FINANCE (PREREQUISITE: FIN 555)**

International Finance integrates the financial activities, institutions, and multinationals of the global finance arena. In addition to extending the tools of financial analysis to an international setting, the course studies the strategies available to a multinational because of operations in a multiple of countries. Topics include foreign currency and political risk, capital budgeting in a multinational setting, and cash flow management between countries. PREREQUISITE(S): FIN 555.

**IB 540 INTERNATIONAL MANAGEMENT**

The objective of this course is to develop clear awareness of the international business operations, practices and environment. It provides the concepts, methods and tools necessary to face the global challenges in international management. The objective is met through lectures, classroom discussions, library assignments and research work. Students will learn the effective use of the international business references. By the end of the course, they are expected to have developed a high level of competency in

acquiring, understanding, analyzing and synthesizing international management information from international business directories, databases and CD-ROMs.

**IB 545 AREA STUDIES IN INTERNATIONAL MANAGEMENT**

In-depth analysis of the economic and cultural aspects of doing business in a particular region, e.g. Western Europe, Middle East, Japan, etc. The course focuses on the region's business relations with the United States, its trade and management practices and the successful conduct of business negotiations. The area under consideration will vary from quarter to quarter in order to cover regions of particular interest to our students and the business community of Chicago.

**IB 550 INTERNATIONAL MARKETING (PREREQ: MKT 555 OR EQUIVALENT)**

The differences between markets and distribution systems in various countries are explored. By emphasizing the social and economic factors causing these differences a sound understanding of and empathy with different international marketing problems are developed. Analyses are made of the organization of trade channels in various cultures, of typical government policies towards international trade in countries at different stages of development, and of international marketing research, advertising, and exporting. Offered Variably. PREREQUISITE(S): MKT 555 or equivalent.

**IB 750 INTERNATIONAL BUSINESS SEMINAR I (COREQ: IB 755)**

Off-campus seminar, usually one to three weeks, providing exposure to international business cultures. COREQUISITE: IB 755.

**IB 755 INTERNATIONAL BUSINESS SEMINAR II (COREQ: IB 750)**

Some of the International Business Seminars offered eight rather than four credits. Students are ordinarily required to complete an in-depth research paper in an international business area approved by the director of the seminar. Information gathered during the seminars with business and governmental organizations must be incorporated into the research paper. COREQUISITE: IB 750.

**IB 760 PROBLEMS AND PRACTICES I: MARKETING AND FINANCE, AN INTRODUCTION (PREREQ: MBA/IMF ONLY)**

An introduction to the issues in the management of marketing and financial activities in a global business environment. The course seeks to integrate marketing and finance as the driving forces of corporate strategy. Topics include the time value of money; the determinants of corporate financial strategies, including dividend policy, capital structure, and capital budgeting; and the role of agency costs and information in the formulation of financial policy. The course will also introduce students to consumer behavior, product and pricing strategy, new product development, and distribution strategy. PREREQUISITE(S): MBA/IMF only.

**IB 770 PROBLEMS AND PRACTICES II: INTEGRATED SIMULATION**

This course is designed to integrate multiple areas of specialization within an international business environment. Students will formulate, develop, and implement strategic issues and concepts for a "simulated" company. Decisions will include: product positioning, pricing promotion, and sales budgets, new product introduction, production, labor versus capital investment, and capital structure. Some of the factors that will be explored include defining the mission statement of an organization, environment analysis and appropriate reactions, setting objectives and targets, and formulating organizational and functional strategies. Enrollment is limited to students in the MBA/IMF only.

**IB 775 PROBLEMS AND PRACTICES III: FINANCIAL MANAGEMENT**

This course is designed to integrate the finance function into issues involving marketing strategies and marketing research. Through an analysis of the financial consequences of selected corporate missions and strategic objectives, the financial elements of a marketing plan are developed and analyzed. The course seeks to compare and contrast the analytical methods and applications used in marketing research with the types of problems and solution techniques developed for the finance function. Through a discussion of the strategic process and the corporation's analytical framework for decision-making, the course focuses on the interaction of finance and marketing in the global operations of the corporation. Enrollment is limited to students in the MBA/IMF only.

**IB 780 PROBLEMS/PRACTICE IV:MARKETING & FINANCE STRATEGIC ISSUES & INDUSTRY PRACTICES**

This course addresses the use of marketing and financial decision-making in the development of the firm's strategic plan. Topics examined include the process of strategy development and implementation, decision-making under uncertainty and change, and an examination of the contemporary marketing and finance environment as it applies to a specific firm. The student is challenged to integrate the marketing and finance issues facing the firm with the total corporate environment. The impact of recent developments in financial markets and of rapidly changing consumer preferences is emphasized. In a term project, students will develop a strategic plan for selected international firms and propose their plan to the firm. Enrollment is limited to students in the MBA/IMF only.

**IB 798 SPECIAL TOPICS (PREREQ: AS INDICATED IN SCHEDULE)**

Content and format of the course are variable. An in-depth study of current issues. Subject matter will be indicated in class schedule. Offered Variable. PREREQUISITE(S): As indicated in schedule.

**IB 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in international business. PREREQUISITE(S): Written permission.

**INTERNATIONAL STUDIES****INT 401 PROSEMINAR IN INTERNATIONAL STUDIES**

The seminar defines the methodology of international studies in three ways: as a theory of institutional interactions between people separated by distance and/or culture, as a problem-based research agenda aimed at discovering more effective mechanisms for these institutional interactions, and a collection of methods that employ historical, political, economic and cultural research techniques, simultaneously or sequentially, to uncover solutions to international problems. The objectives of this seminar are accomplished by studying a series of cases, most of which require library research, with students. These serve as model thesis projects, thereby introducing students to the methodology of the field and the program requirements simultaneously. Faculty from the various disciplines offer lectures in the seminar, introducing students to a wider range of approaches and potential advisors in the Autumn term. PREREQUISITE(S): Permission of the director

**INT 402 COMPLEX SOCIAL ORGANIZATION (PERMISSION OF DIRECTOR REQUIRED)**

The seminar will work through a series of cases that show students how to connect the surface events of a contemporary economic or political situation to the underlying social and cultural structures and processes that precipitate it. Theories that attempt to validate assumptions about these underlying structures and processes are examined. Through this seminar students acquire a fundamental knowledge of social theory and the methodology of organizational analysis. PREREQUISTE(S):INT 401 or permission of the instructor

**INT 403 MOVEMENTS, REGIMES, AND IDEOLOGIES**

The seminar focuses on the organization of power in contemporary societies and the processes that legitimize or impeach authority. Students examine cases from both historical movements and contemporary movements. Through this seminar students acquire a fundamental knowledge of the agendas of modern political movements and the ideological supports for existing regimes. PREREQUISTE(S):INT 401

**INT 404 CULTURES IN THE INTERNATIONAL CONTEXT**

An examination of contemporary issues in cultural analysis of global processes. Topics may include local-global linkages, transnational identities and communities, diasporas, Orientalism, the post-colonial condition, the post-socialist condition, commodification and consumption, meanings of gender and sexuality, globalized spaces and places, and technological transformation.

**INT 405 ECONOMIES IN THE INTERNATIONAL CONTEXT**

Examines the historical development of the contemporary international economy. The principle channels of interaction in this economy are examined: trade and investment, diffusion of technology, and institutional borrowing and adaptation. Students encounter classical, marxian, and neoclassical (political) theories of the interaction between national economies. PREREQUISTE(S):INT 401

**INT 406 GLOBALIZATION**

This seminar explores the cultural, economic, and political dimensions of current globalization processes. Topics may include flows of people, goods, ideas, or capital and how these flows impact states, movements, regimes, and localities. PREREQUISTE(S):INT 401

**INT 490 SPECIAL TOPICS IN INTERNATIONAL STUDIES**

Special courses will be offered as students and faculty identify selected topics of common interest. This number is also used for students taking 300-level courses in the undergraduate International Studies program. In this case, students must have the approval of their thesis advisor and the director of the International Studies program before registering for the course.

**INT 500 TOPICS IN GLOBAL CULTURAL ANALYSIS**

Provides students writing theses in the area of global culture with opportunities to read contemporary works in the field, including the fragmentation of identity, postcolonial historiography, and transnationalism. Students develop analytical skills that can be applied to their projects. The seminar is offered in the Spring of the first year; the course focuses on different topics under different instructors.

**INT 502 TOPICS IN INTERNATIONAL POLITICAL ECONOMY**

Provides students writing theses in the area of international political economy with opportunities to read contemporary works in the field, including growth theories, capital and labor flows, and transformation of regimes. Students develop analytical skills that

can be applied to their projects. The seminar is offered in the Spring of the first year; the course focuses on different topics under different instructors.

**INT 504 TOPICS IN INTERNATIONAL LAW**

Course offers students the opportunity to engage in an examination of recent developments in international treaties, legal process and international organization. Topics have included refugees, trade law, criminal law and the establishment of the international criminal court, international labor law, environmental law, theories of international law, human rights and the relationship between international law and local economic development. Students work on the international law and institutional aspects of their theses.

**INT 506 ETHICS IN INTERNATIONAL POLITICS**

Provides a detailed review of the ethical writings on international politics from a number of philosophical positions.

**INT 508 ETHNIC CONFLICT**

Course offers students the opportunity to engage in comparative examination of recent ethnic conflicts. Theories of the national/nationalism, ethnicity, race and gender are applied to case studies of conflicts involving group-based sociopolitical identification. International political legal forms of prevention and amelioration are studied and evaluated in light of theories and histories of group-based conflict. Conflicts studies have included: Northern Ireland, Rwanda, Israel/Palestine, the former Yugoslavia, Nigeria, E.Timor, Chiapas, France, Tibet, Cypruds, Kurdistan, Sri Lanka, and the U.S. Students work on the theory portion of their theses, developing a conception of group-based social identification.

**INT 509 INTERNATIONAL MIGRATION**

Course examines historical, political economic, sociocultural and legal aspects of the migration of people across borders. Students gain a critical understanding of the development of the world labor market from early modernity through the present, as well as the structural context of recent anti-immigrant/anti-immigration politics in Europe, North America and Australia. Cultural studies concepts of diaspora, *mestiza*, "the new ethnicity," and hybridity are used to explore the possible formation of unique migrant subjectives. Finally we look at the consequences for the nation-state of migration-driven transnational subject and community formation. Students work on the theory portion of their theses, developing a conception of population shifts, transnational identity and their implications for social organization.

**INT 510 GLOBAL CITIES**

**INT 532 INTERNATIONAL MEDIA**

Explores the growth in the scope and power of international media to distribute images and ideas. Topics covered include First World monopolization of media, analysis of ties between media and capital, and Third World resistance to media influence.

**INT 540 UNITED NATIONS PEACEKEEPING**

Peacekeeping. Explores the history of UN. peacekeeping efforts and the effectiveness of these efforts in different conflicts. Topics vary with the interests of the students.

**INT 570 FIELD RESEARCH IN INTERNATIONAL STUDIES**

Supervised independent research aimed at acquiring primary data for the thesis. Requires the approval of the thesis advisor and the director of the program.

**INT 580 INTERNSHIP/PRACTICUM**

Supervised participation in a professional activity outside of the student's current employment, that further deepens the student's understanding of his or her research area. Requires the approval of the thesis advisor and the director of the program.

**INT 588 INTERNATIONAL SOCIAL ENGAGEMENT**

This course provides 20-25 hours of service learning opportunities for students in organizations that are pursuing local activities based on international missions or globally-informed policies. The course meetings are focused on student experiences and a discussion of state, sub-state, and non-state organizational structures in the international context.

**INT 590 THESIS RESEARCH I: DIRECTED RESEARCH**

The workshop extends the opportunity for students to discuss their thesis research activities with faculty and to learn various techniques and strategies of effective research. Ordinarily, students register for this course in Spring term.  
PREREQUISTE(S):INT 401

**INT 592 THESIS RESEARCH II: THESIS WRITING**

The workshop extends the opportunity for students to discuss their thesis writing activities with faculty and to learn various techniques and strategies of effective scholarly writing. The culmination of this course is the defense of the thesis. Ordinarily, students register for this course in Winter term. PREREQUISTE(S):INT 401

**INT 601 CANDIDACY CONTINUATION**

Students who must take extra time to complete the requirements for the first or second year must enroll in candidacy continuation or must apply for readmission to the program.

**INSTITUTE FOR PROFESSIONAL DEVELOPMENT****IPD 530 ADVENTURE OF THE AMERICAN MIND**

The Adventure of the American Mind (AAM) is the course component of a project designed to teach in-service classroom teachers to access, use and produce curriculum utilizing the Internet and the digitized primary source materials from the collections of the Library of Congress.

**INFORMATION SYSTEMS****IS 421 INFORMATION SYSTEMS ANALYSIS**

Introduction to the systems analysis phase of the software development life cycle. Emphasizes feasibility analysis, information gathering, process modeling, data modeling, and requirements definition. Topics and team project tasks include CASE tools, RAD, JAD, work flow diagrams, entity-relationship diagrams, data flow diagrams, and object oriented modeling. Students are strongly urged to take IS 421 and IS 422 in consecutive quarters. PREREQUISTE(S): CSC 212 or CSC 224.

**IS 422 INFORMATION SYSTEMS DESIGN**

Introduction to the systems design and implementation phases of the software development life cycle. Emphasizes techniques for developing a logical and physical design from a systems analysis. Topics and team project tasks include CASE tools, object oriented modeling, structure charts, action diagrams, interface design, prototyping, testing, implementation, and maintenance. Students are strongly urged to take IS 421 and IS 422 in consecutive quarters. PREREQUISITE(S): IS 421.

**IS 425 ENTERPRISE INFORMATION**

This course focuses on the interrelationships and methods used by information systems groups to meet the information needs of enterprises. The course starts with an examination of the basics of enterprises information needs: the role of the value chain, the profit paradigm, and information infrastructure flows are explored. Then attention turns role of software methods, programming and security as supporting technologies. Topics include enterprise systems, commerce systems, project management, sourcing decisions, IT risk management, services and operations performed. PREREQUISITE(S): IT 215 or SE 325.

**IS 450 ENTERPRISE SYSTEM IMPLEMENTATION**

This course is targeted towards information systems professionals who are involved in the planning and implementation of large scale, cross-functional enterprise systems. Students will examine the characteristics of technology efforts that change and transform the way people perform their tasks and how the new technology structures the flows of information and decision making using workflow modeling methods. Through case studies and exercises students gain insights into the elements of successful implementations leading to the preparation of a change management plan. Emphasis is placed on developing mechanisms for communicating and training all affected agents. PREREQUISITE(S): IS 425 or MIS 555 or ECT 455 or HCI 440.

**IS 456 KNOWLEDGE MANAGEMENT SYSTEMS**

Survey of emerging technologies supporting organizational knowledge processes including capture, codification, structure, storage, dissemination and reuse. The course will critically examine how organizations may leverage these technologies toward competitive advantage. Students will experiment with contemporary knowledge management (KM) tools. Some theoretical perspectives on knowledge management (KM) and organizational learning (OL) will be introduced. PREREQUISITE(S): completion of foundation or core phase.

**IS 475 INFORMATION SYSTEMS ANALYSIS AND DESIGN**

Information systems development emphasizing the application of structured techniques in a case and 4G1 environment. Topics and team project tasks include case tools, entity-relationship diagramming, data-flow diagramming, structure chart, action diagram, joint application design, prototyping, design of relational database, and testing. PREREQUISITE(S): CSC 315 or instructor consent.

**IS 477 SOFTWARE AND SYSTEMS PROJECT MANAGEMENT**

Planning, controlling, organizing, staffing, and directing software development activities or information systems projects. Theories, techniques, and tools for scheduling, feasibility study, cost-benefit analysis. Measurement and evaluation of quality and productivity. PREREQUISITE(S): SE 430 or consent of the instructor.

**IS 481 SOFTWARE AND SYSTEMS DOCUMENTATION**

Creating documentation for software, systems, or telecommunications projects. Development and delivery of documents (paper and Web-based) that present products

and systems effectively to complex audiences. Documents include planning documents, vision statements, requirements specifications, status and milestone reports, user test plans, and user documentation. Emphasis on constructing electronic documents, appropriate content and hyperstructures for specific purposes and readers, and textual interactivity. Discussions on versioning and intellectual property issues. Presenting highly technical issues to business audiences. PREREQUISITE(S): Graduate Standing.

#### **IS 482 LEGAL ASPECTS OF INFORMATION TECHNOLOGY**

A practical survey of computer and information technology law arising in a high tech environment. Topics covered include: employment contracts, civil and criminal law, fraud and abuse, contracts, e-commerce, intellectual property, privacy, security, harmful communications, constitutional and First Amendment issues, and internal law and trade. PREREQUISITE(S): NONE.

#### **IS 483 INFORMATION SERVICES AND OPERATIONS**

This course focuses on the operational aspects of information systems in organizations by examining the concepts, tools and techniques available to IS professionals responsible for the delivery of IT services. Topics include the organization of the IT services; the procurement of hardware, software and vendor services; operation of data centers, help desks and user training, the development and use of RFPs (Request for Proposals) and SLAs (Service Level Agreements), the integration of services and operations with application development project needs, and the role of capital and operating budgets. PREREQUISITE(S): IS 421.

#### **IS 484 COMPUTERIZED ACCOUNTING SYSTEMS**

Responsibility accounting systems. Profitability accounting systems. Customer invoicing, cash receipts and accounts receivable information processing. Customer order entry, finished goods inventory, purchasing and receiving information processing. Accounts Payable, fixed assets and employee payroll systems. General ledger, budget and profit planning, sales analysis and market planning systems. PREREQUISITE(S): GSB 504 or ACC 103.

#### **IS 505 BUSINESS CONTINUITY AND DISASTER RECOVERY**

This course will give you basic knowledge on how a company should prepare for all types of disruptions (floods, earthquakes, terrorist attacks, etc.) so it will survive the disruption. You will be given a blueprint for how to analyze and prioritize risks, come up with criticality ratings, and determine a strategy for survival. You will also learn how to organize employees to respond to the disruption and how to document recovery plans. PREREQUISITES: ADVANCED STANDING RECOMMENDED

#### **IS 511 SOCIAL ISSUES OF COMPUTING**

This course aims to provide a broad survey of the individual, organizational, and cultural impacts of computers and to stimulate reflection upon the social and ethical issues provoked by current and projected uses of computers. Some topics include an in-depth look at computers as they relate to workplaces, communities, public policy, legal issues, education, privacy, and moral values. PREREQUISITE(S): NONE.

#### **IS 512 GROUPWARE AND VIRTUAL COLLABORATION**

Study of the development and use of computer technologies to support local and distributed group collaboration including virtual teaming. This course will survey the emerging IS fields of groupware, computer-supported cooperative work (CSCW) and group support systems (GSS). Students will acquire an understanding of both the architectural issues of designing and implementing these technologies as well as group, organizations and societal implication of their use. PREREQUISITE(S): IS 425 or MIS 555 or ECT 455 or HCI 440.

**IS 540 GLOBAL INFORMATION TECHNOLOGY**

A study of the hardware, software, and techniques for using virtual information technologies to support teams working in a distributed, virtual, or global environments. Topics include software survey and evaluation, software deployment within organizational and trans-organizational contexts, trans-national vendor relationships, trans-border data flow, geographically dispersed software development, and intergration of diverse technologies. PREREQUISITE(S): IS 425 or MIS 555 or ECT 455 or HCI 440.

**IS 549 DATA WAREHOUSING AND DATA MINING**

Introduction to data warehousing and the foundations of understanding the issues involved in building a successful data warehouse. Data warehouse development methodology and issues surrounding the planning of the data warehouse. Data quality and metadata in the data warehouse. Analysis, transformation and loading of data into a data warehouse. Development of the data architecture and physical design. Implementation and administration of the data warehouse. Introduction to data mining. (PREREQUISTE(S):CSC 449).

**IS 553 ADVANCED TOPICS FOR SYSTEMS DEVELOPMENT**

Planning and implementation of enterprise systems in the context of enterprise transformation and new market dynamics. Networked enterprise and virtual organizations. Internet and intranet applications for electronic commerce, mass customization and information empowerment. Enterprise-wide systems, business process reengineering. Interorganizational systems, sourcing options, and transformational information technologies. Value-chain analysis and competitive strategies. Case studies examine various planning and implementation approaches and impacts. PREREQUISITE(S): IS 422 or ECT 555 or SE 430.

**IS 554 INFORMATION ENGINEERING**

Application of structured techniques on enterprise-wide data models, information architecture, and cross-functional models. Stages for information strategy planning, business area analysis, joint requirement planning, and I.E. methodology. CASE tools, organizational strategies and economics of financial justification. Case studies. (PREREQUISTE(S):IS 422 and CSC 449).

**IS 556 PROJECT MANAGEMENT**

Effective management of technology based projects. This course links systems analysis and software engineering within traditional and emerging system development lifecycles. Topics include: technology project risk, structure, estimating, scheduling, controlling, assessment, project management software, the impact of technology on the organization, overcoming resistance to technological change, the expanding role of the system user, and inclusion of system integrators, vendors, and outsource service providers in the project plan. PREREQUISTE(S): IS 425 or SE 430 or ECT 455 or HCI 440.

**IS 560 ENTERPRISE SYSTEMS**

An introduction to enterprise systems for data and process integration, including ERP systems. Topics include the requirements of enterprise systems, application architecture, tools, and functionality of leading enterprise systems, life cycle and methodologies for systems integration, selection, and implementation strategies. Also addressed are emerging trends for enterprise systems and relationship among component systems. PREREQUISITE(S): IS 425 or ECT 455.

**IS 567 KNOWLEDGE DISCOVERY TECHNOLOGIES**

An introduction to the Knowledge Discovery in Databases (KDD) technologies including: data selection and preparation, coding, using a variety of pattern recognition techniques, and reporting the results. The course provides information systems students with a comprehensive overview of data mining and machine learning tools and techniques that is aimed at maintaining and using databases as a strategic source of information and knowledge. The course introduces students to many of the machine learning algorithms including: traditional statistical algorithms, decision trees, association rules, neural networks, and genetic algorithms. PREREQUISITE(S): CSC 449 and (CSC 212 or CSC 224).

**IS 571 SOFTWARE MAINTENANCE****IS 572 INFORMATION SECURITY MANAGEMENT**

Survey of security considerations as they apply to information systems analysis and design. Vulnerability assessment. Security audits. Access controls for Internet-based and internal systems. Firewalls. Data protection. Physical access controls. Security policies. Personnel and equipment security. Risk management. Legal requirements and considerations. Privacy. PREREQUISITE(S): NONE.

**IS 574 DECISION SUPPORT SYSTEMS AND INTELLIGENT SYSTEMS**

Introduction to the concepts of decision support systems and artificial intelligence systems as components of information systems. Detailed discussion of the analysis, design and implementation of systems for decision support, including: data management systems, knowledge engineering, expert systems, and intelligent agents. Advances in artificial intelligence technologies including: knowledge acquisition, knowledge representation and inferencing techniques. Case studies of application software, success and limitation as well as technical and social issues. (PREREQUISITE(S): (SE 430 or MIS 674) and (CSC 449 or CSC451).

**IS 575 INTELLIGENT INFORMATION RETRIEVAL**

Examination of the design, implementation, and evaluation of information retrieval systems. The focus is on the underlying retrieval models, algorithms, and system implementations. Also examined is how an effective information search and retrieval is interrelated with the organization and description of information to be retrieved. Topics include: automatic indexing; thesaurus generation; Boolean, vector-space, and probabilistic models; clustering and classification; information filtering; distributed IR on the WWW; intelligent information agents; IR system evaluation; information visualization; and natural language processing in IR. Throughout the course, current literature from the viewpoints of both research and practical retrieval technologies both on and off the World Wide Web will be examined. PREREQUISITE(S): CSC383.

**IS 577 INFORMATION SYSTEMS CAPSTONE**

This capstone course emphasizes the planning and management of information technologies and related resources at the corporate level. Topics covered include assessment of information technologies, tracking emerging technologies and trends, managing portfolio resources and matching them to business needs, technology transfer, end-user computing, outsourcing, theoretical models, strategic applications and strategic IT planning. Students are encouraged to take this course toward the end of their study. PREREQUISITE(S): Completion of the IS Core Knowledge Phase.

**IS 578 INFORMATION TECHNOLOGY CONSULTING**

This course is for the IT professional. The emphasis is on examining the models, techniques, and skill development for providing effective IT consulting services. The course examines the structure of IT consulting markets; leading IT consulting practices;

models and approaches for providing internal IT consulting services; sourcing strategies, evaluation of RFPs and response process contract formulation, client relations and project management; knowledge management and collaboration and IT strategies. PREREQUISITE(S): (SE 430 and IS 425) or (MIS 555 and MIS 674).

#### **IS 596 TOPICS IN INFORMATION SYSTEMS**

Independent study form required. (PREREQUISITE(S):Consent of instructor).

#### **IS 690 RESEARCH SEMINAR**

Readings and discussion on current research topics. Students may register for this course no more than twice. (PREREQUISITE(S):Consent of advisor).

#### **IS 696 MASTER'S PROJECT**

Four credit hours. Students may register for this course only after their advisor has approved a written proposal for their project. Independent study form required. (PREREQUISITE(S):Consent of advisor).

#### **IS 698 MASTER'S THESIS**

Two credit hours. Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. Independent study form required. (PREREQUISITE(S):Consent of advisor).

### **INTERDISCIPLINARY STUDIES PROGRAM**

#### **ISP 498 INDEPENDENT STUDY**

No more than four quarter hours may be applied toward degree requirements.

#### **ISP 499 THESIS RESEARCH**

Registration for either four or eight quarter hours credit. Student must have written approval, before registering, of his or her thesis director.

#### **ISP 602 CANDIDACY CONTINUATION (FEE: \$40.00)**

This registration is required of all students who are not registered for courses but who occasionally use University facilities during completion of course requirements or research projects. Non-credit. \$40.00 per quarter.

### **INFORMATION TECHNOLOGY**

#### **IT 430 BUILDING INTERNET APPLICATIONS**

This course presents the design and development of interactive Web applications for e-commerce. Major topics include Web server architecture; server-side programming including events and controls; application and database integration; and security issues. Students will engage in a course project to build a dynamic Web application.

PREREQUISITE(S): IT 130

## **INSTRUCTIONAL TECHNOLOGY SYSTEMS**

### **ITS 427 INFORMATION PROCESSING MODELS OF LEARNING**

This course surveys information processing models of learning and uses them to explain principles and factors that contribute to successful learning outcomes. These models, often called computational cognitive models, provide rigorous, testable theories of how skills and knowledge are acquired. Building upon computer concepts acquired from previous courses, students will experiment with working systems in understanding the empirical findings that are most relevant towards building instructional systems. PREREQUISITE(S): CSC 212.

### **ITS 431 INSTRUCTIONAL DELIVERY AND COURSE MANAGEMENT SYSTEMS**

This is an applications course in which participants will examine instructional delivery systems such as Internet-based applications, and other voice, video and data systems and course management systems such as Black Board, cu Hear me, Lectra, and Net Meeting. The course will be grounded in learning theory, management practices and organizational structures. PREREQUISITE(S): ITS 427

### **ITS 440 DISTANCE LEARNING TECHNOLOGIES**

This course is designed to enable students to design and evaluate Internet-based distance learning (IDL) systems. The course focuses on three major themes: IDL scenarios and requirements, multimedia technology and its impact in IDP systems, and network and collaboration support for IDL. PREREQUISITE(S): TDC 361 or DS 420.

### **ITS 560 INSTRUCTIONAL TECHNOLOGY TRAINING AND USER SUPPORT**

Cross-listed with HCI 560. Designing and delivering information technology training in the workplace, both instructor-led and computer-based. Theories of adult learning. Preparing, presenting, and evaluating courses. Training management systems. Performance support systems and job aids. PREREQUISITE(S): HCI 440 and HCI 460.

### **ITS 584 ARTIFICIAL INTELLIGENCE IN LEARNING ENVIRONMENTS**

AI techniques play a natural role in learning environments by allowing technological artifacts to interact with learners in an intelligent manner, and by helping us better understand the processes that are involved in learning. This course will look at Artificial Intelligence in Learning Environments (AILE) from three viewpoints. The first is the research in human learning that relates to AI techniques. Methods like scaffolding, self-explanation, constructivism, and learning-by-doing have been used by AI systems to increase learning in a wide range of settings. The second viewpoint comes from the AI techniques that have played an important role in AILE systems. Some of these come directly from "mainstream" AI, like cognitive modeling, natural language processing, machine language, and bayesian networks. Others have been developed primarily for use in AILE systems, for example, student modeling, model tracing, knowledge tracing, and methods for evaluating learning. We will ground all of these topics by looking at particular AILE systems that have been influential by pushing the state of art and/or demonstrating substantial benefits in learning environments. PREREQUISITE(S): CS 457 OR CS 480 OR INSTRUCTOR PERMISSION.

### **ITS 589 ITS CAPSTONE PROJECTS COURSE**

This practicum projects course provides an opportunity for students to apply all of the skills they have learned on one comprehensive project. Multidisciplinary teams work with educational domain experts to plan, design, implement, and evaluate an intensive instruction technology systems project. PREREQUISITE(S): Completion of the ITS Fundamental courses or consent of the instructor.

## **JAZZ STUDIES**

### **JZZ 400 JAZZ ENSEMBLE**

(1 credit) Current performance styles for large ensemble; new arrangements and compositions are emphasized; performances are presented both on and off campus. Audition required. All MEN courses are repeatable courses.

### **JZZ 401 JAZZ CHAMBER ENSEMBLE**

(1 credit) Study, rehearsal and performance of literature for jazz chamber groups. All MEN courses are repeatable courses. Placement audition required.

### **JZZ 402 ADVANCED JAZZ COMPOSITION I**

(4 credits) Composition of works for jazz chamber groups and big bands.

### **JZZ 403 JAZZ ANALYSIS AND APPLICATION**

(4 credits) Studies of major jazz composers in transcription. Application of styles in compositional projects.

### **JZZ 404 ADVANCED JAZZ COMPOSITION II**

(4 credits) Advanced topics in jazz composition. Composing for jazz chamber groups and big bands. PREREQUISITE(S): MUS 440.

### **JZZ 405 JAZZ HISTORY**

This course will be centered around study of the bebop period, which is the foundation of modern jazz. The swing era will be studied, which is the period immediately preceding bebop, to understand the reasons bebop came about. The substyles that developed after the bebop period are called the cool school and the hard bop periods. The reasons these periods came about will also be discussed. With regard to these periods, significant recordings, musicians, and style development will be discussed.

### **JZZ 406 JAZZ STYLE AND ANALYSIS**

At the completion of this course, students will demonstrate a theoretical and aural understanding of the process of jazz improvisation, including song forms and structures, chord/scale relationships, chord notation and phrasing; transcribe, analyze, and perform select solo jazz improvisations by recorded jazz artists; have made two class presentations that will incorporate the student's performance and written analysis of select solo jazz improvisations, and a historical biography of the recorded solo artist. Open to all graduate music students.

### **JZZ 407 JAZZ GRADUATE RECITAL**

A full 60 minute, public recital performance of solo and/or chamber repertoire to be completed during the graduate residence. This recital is required as partial fulfillment of the degree of Master of Music in Jazz Studies.

COREQUISITE: Students must be registered for 2 or 4 credits of applied lessons during the quarter the recital is presented.

## **LIBERAL STUDIES IN EDUCATION**

### **LSE 404 CHILD REARING ACROSS CULTURES**

Study of child-rearing practices, the effects of culture on cognitive development and the implications for teaching strategies for the child whose first language is not English.

### **LSE 420 COMPARATIVE EDUCATION**

This course is devoted to the study of historical and contemporary issues related to comparative education-with an emphasis upon early childhood, elementary, and secondary levels. Through a comparative study of educational public policy, we will examine assumptions about the aims and purposes of education and schooling in terms of economic, political and social dimensions. Major topics and issues addressed will include the following: examining what it means to be educated; examining similarities and differences in the ways developed and developing countries educate children and youth; the organization and structure of educational institutions; disconcerting implicit and explicit values in different approaches to teaching and learning; relationships between schools and communities; education and the issues of change and social justice.

### **LSE 430 EDUCATION AND SOCIAL JUSTICE (CROSS-LISTED AS LSE 258)**

A variable-topics course designed to examine education within a philosophical framework which focuses upon the relatively great potential of education as an agent for social justice and change. Through the examination of current issues and concerns, students are expected to engage in critical analysis, reflect upon theoretical frameworks, examine public policies and values, and consider ways in which schools and educators can promote the development of social justice. Each time the course is offered it will focus on one of the following topics: gender; ethnicity; language and culture; or social class and economic opportunity. For each topic, attention will be given to the issues of institutional responses to differences, equity, access and outcomes.

### **LSE 438 GENDER AND EDUCATION**

A variable-topics course designed to actively engage students in examination of the literature and issues related to gender and education. Curriculum, teaching and learning, achievement, and the organization structure and culture of schools are among the key concerns. Gender will be addressed as it intersects with other forms of inequality and difference: race, ethnicity, class, etc. Each time the course is offered it will focus on a particular topic, but for each topic attention will be given to issues about institutional responses to inequality and differences.

### **LSE 450 DYNAMICS OF AFRICAN-AMERICAN CULTURE (CROSS-LISTED AS SOC 490)**

(Cross-listed as SOC 490) This course is intended for those interested in cultural and human relations in order that they may examine the contributions of the black person to American Culture; gain a functional understanding of the social, economic and political development of the black person on America itself.

**LSE 460 INTERNATIONAL STUDIES IN EDUCATION**

This variable-topics course will focus upon educational issues in a particular country or region outside of the United States. Through comparative study, a number of issues will be addressed: aims and purposes of education and schooling; economic, political, social and cultural contexts of educational policies; similarities and differences in organization and structure of educational systems; relationships between home, community and educational institutions; education, development and issues of social change.

**LSE 461 INTERNATIONAL STUDIES IN TEACHING AND LEARNING**

This variable-topics course will focus upon aspects of curriculum, teaching and learning in a particular country or region outside of the United States. It requires work in the chosen country or region under the guidance of teachers familiar with its educational practices. The course will examine how curriculum is organized, developed and implemented in classrooms and schools with concentration on particular subjects or levels. From a comparative perspective, particular attention will be paid to the values and assumptions underlying curriculum and teaching.

**LSE 462 INTERNATIONAL FIELD EXPERIENCES IN EDUCATION**

Through clinical experience outside of the United States, students will observe, participate in and reflect upon teaching and learning in cultural settings that differ from their own. This field experience abroad provides an opportunity to develop an understanding of what it means to be educated in the context of another society or culture. The intent of this experience is to add more global perspective to one's own professional knowledge and practice. Variable credit, ranging from 2-8 quarter hours can be earned, dependent upon the nature and duration of this field experience.

**LANGUAGE, LITERACY AND SPECIALIZED INSTRUCTION****LSI 430 INTRODUCTION TO ASSESSMENT OF READING AND LEARNING DISABILITIES**

This course introduces the student to concepts and procedures in assessment of literacy and learning disabilities. Emphasis will be given equally to a theoretical framework for testing and to practical applications with actual tests. Topics to be covered include standardized testing (test construction, reliability and validity, procedures for administering standardized tests, scoring, test interpretation, non-discriminatory testing, and cultural, linguistics, and technical limitations of standardized tests) criterion referenced assessment (informal, curriculum-based, authentic assessment, portfolio assessment) and, other modes of assessment (interviewing and case histories). The course will examine assessment of various cognitive abilities, oral language, and achievement in reading, spelling, and writing. Candidates will also be introduced to analysis and interpretation of tests, profiling and report writing.

**LSI 431 FOUNDATIONS OF LITERACY: ASSESSMENT AND INSTRUCTION I**

This course focuses on the nature of the reading process, current literacy theory and practices, and research-based instructional strategies to develop literacy skills in emergent and developing readers and students with reading/learning disabilities. Emphasis will be placed on understanding the reading process, analyzing and applying research-based instructional practices, administering, analyzing, and interpreting formal and informal reading assessments, and making informed instructional decisions to meet the unique needs of individual readers. Differences in reading abilities will be

examined in light of providing appropriate, effective, and meaningful literacy instruction.

#### **LSI 432 DEVELOPING LITERACY: ASSESSMENT AND INSTRUCTION II**

LSI 432 focuses on the reading, writing and literacy development of the middle and high school student (Grades 5-12). Emphasis will be placed on understanding literacy, the reading process, the interaction of reading and learning, and the connections of reading and writing. All of the above will be examined taking into consideration the physical, emotional, social, and cognitive development of the middle level student, in conjunction with the diverse demands placed upon the student by the schools. In order to comprehend these complex relationships, philosophical approaches, theoretical models, assessment measures and practical implications will be analyzed. Finally, the role of technology in literacy will be examined.

#### **LSI 433 DIAGNOSIS AND INTERVENTION FOR READING AND LEARNING DISABILITIES**

This course is designed to give the student an understanding of the characteristics of children with reading and learning disabilities, and of the process of diagnostic evaluation, test interpretation and report writing, and strategies for intervention. It is also designed to give some practical experience with selected tests used in diagnosis. Emphasis will be given to the use of case study material to help the student learn to analyze and interpret assessment data, write diagnostic results, and develop intervention strategies.

#### **LSI 434 LITERATURE FOR SUCCESSFUL AND STRUGGLING READERS**

This course will familiarize students with different genres of quality children's literature and how to select and use books that are appropriate and meaningful for children and youth with and without reading disabilities. Students will discuss, analyze, and critique literary elements (author's style of writing, character development, setting, mood, and theme), determine estimated readability levels, and engage in reader response activities that promote critical discussion and a personal interaction with text. Students will become familiar with authors, illustrators, and books that represent diverse cultures, races, ethnic and ability groups, and develop meaningful literature extensions that support various curricular areas, develop literacy skills, and promote an enjoyment of reading.

#### **LSI 435 CURRICULUM, COLLABORATION, ADMINISTRATION AND SUPERVISION OF READING PROGRAMS**

This course will prepare the reading specialist to assume a leadership role within a school or district, to help develop and supervise reading programs, and to be instrumental in integrating good reading practices throughout the curriculum and across grade levels. Students will learn about the leadership role of the reading specialist as they explore the ways in which a reading specialist can be a teacher leader, curriculum developer, and liaison to parents and the community beyond the school.

#### **LSI 436 CURRENT ISSUES AND RESEARCH IN READING AND LEARNING DISABILITIES**

A seminar format using selected readings allows students to analyze and discuss research on current issues in reading instruction and learning disabilities. A variety of topics will be covered including: social/cultural issues in literacy development and instruction, bilingual/bicultural issues in literacy development and instruction, paraprofessional and volunteers in literacy programs, technology for literacy development and instruction, assistive technology for reading disabilities, neurological research and reading disabilities, specialized intervention strategies for reading disabilities, and other issues. Students will develop skills that promote professional

growth and life-long learning: reading research and other literature, analyzing, reflecting on, and writing about current issues, and participating in professional activities.

**LSI 441 THE PSYCHOLOGY OF READING**

Introduces students to current information concerning theoretical models and methods of reading as well as the role of the neurophysiological, psychological and educational factors that influence both normal and abnormal reading development.

**LSI 442 CHARACTERISTICS OF THE EXCEPTIONAL LEARNER**

A survey of the characteristics of exceptional children and a consideration of alternative placements appropriate for children with various disabilities including the learning disabled. Emphasis on historical, theoretical, practical and legal implications and issues, as well as on the roles of special education professionals, including consultation and collaboration, in mainstreaming exceptional children.

**LSI 443 PSYCHOLOGICAL TESTS AND METHODS IN DIAGNOSIS**

Principles of measurement and test construction including an evaluation of standardized test instruments. Principles of broad-based assessment involving case history, criterion-referenced tests and informal assessment. Emphasis on understanding the strengths and limitations of a wide variety of assessment instruments.

**LSI 444 CHARACTERISTICS AND DIAGNOSIS OF READING AND LEARNING DISABILITIES (PREREQUISITE(S): LSI 443)**

Exploration of the theory and nature of reading and other learning disabilities. This course enhances a student's ability to interpret assessment data and develop a meaningful diagnostic hypothesis. A case study will develop the student's ability to integrate assessment information from a variety of sources, develop a learning profile, and write a diagnostic report. PREREQUISITE(S): LSI 443.

**LSI 445 REMEDIATION OF READING AND LEARNING DISABILITIES (PREREQUISITE: LSI 444)**

A study of the theoretical and practical approaches to the remediation of reading and learning problems. Translation of diagnostic information into teaching strategies, and development of a remedial plan (IEP). Basic principles of diagnostic teaching will be introduced. Specific teaching techniques and materials will be reviewed, including appropriate uses of technology, as well as adaptations for LD students in the mainstream. PREREQUISITE(S): LSI 444.

**LSI 446 PSYCHOLOGY AND EDUCATION OF THE EXCEPTIONAL CHILD**

Identification, characteristics, programs, schools, curricular variations, techniques for securing maximal development. Includes historical background, current legal and service provision issues including mainstreaming and inclusion.

**LSI 447 LANGUAGE DEVELOPMENT AND LEARNING DISABILITIES**

A review of the development of verbal language in normal and atypical learners, as presented by psycholinguistic and speech pathologists. Basic teaching procedures and evaluation of language skills will be emphasized.

**LSI 448 STRATEGIES FOR TEACHING LEARNING DISABLED ADOLESCENTS**

A study of the theoretical and practical approaches to the remediation of reading and learning disabilities in adults and adolescents. Instructional techniques will be presented and remedial materials evaluated.

**LSI 451 CHARACTERISTICS/DIAGNOSIS OF CHILDREN & ADOLESCENTS WITH BEHAVIOR DISORDERS**

Examines social, emotional, behavioral, and academic characteristics of students with emotional and behavioral disorders. Explores the origins of emotional and behavior disorders from a developmental perspective drawing on theory and research in risk and resiliency. Screening and assessment techniques are discussed and IEP development and placement options examined. Particular emphasis is placed on developing an understanding of the numerous types of disorders within a broad category of emotional and behavioral disorders.

**LSI 452 METHODS OF TEACHING THE BEHAVIOR DISORDERED CHILD AND ADOLESCENT**

Strategies for improving the social, emotional, and academic adjustment and functioning of students with emotional and behavioral disorders are examined. Students in this course will develop an understanding of: classroom and behavior management; developing collaborative practices with multiple service providers; developing collaborative efforts with family and care providers; teaching social and emotional curricula; teaching in academic content areas; and monitoring growth and development in targeting adjustment areas.

**LSI 453 CHARACTERISTICS AND DIAGNOSIS OF CHILDREN WITH MILD MENTAL RETARDATION**

Examines the social, emotion, behavioral, cognitive, communication, motor, and academic characteristics of students with mild mental retardation. Explores the theory and nature of intellectual and cognitive functioning as it related to learning and to mild mental retardation. Techniques for broad-based, formal and informal screening and assessment will be addressed.

**LSI 454 INSTRUCTIONAL STRATEGIES FOR CHILDREN WITH MILD MENTAL RETARDATION**

A study of the theoretical and practical approaches to instruction of children with mild mental retardation. Strategies for improving the social, emotional, and academic functioning of these children are examined. Students will explore instructional guidelines, curricular adaptations, accommodations, functional assessment, and strategies for developing networks of support. Emphasis will be placed individualized planning (IEPs) that meet developmental, academic and transitional needs of students with mild mental retardation.

**LSI 455 METHODS OF TEACHING CHILDREN AND ADOLESCENTS WITH PHYSICAL, MULTIPLE AND SEVERE DISABILITIES**

Focuses on addressing the intellectual, social, life-skills, and educational needs of children and adolescents with chronic health impairments, significant physical impairments, and multiple/severe disabilities. Examination of etiological factors, growth, development, and long-term outcomes. Developing collaborative efforts with family and multiple care and service providers is addressed. Includes experiences with assistive technology and designing and implementing a functional curriculum.

**LSI 460 SOCIAL-EMOTIONAL DEVELOPMENT AND CLASSROOM MANAGEMENT**

Focuses on theories and research related to social and emotional development and the implications of this work for children and youth with mild, moderate, and severe disabilities. Theories of social and emotional health are examined from a social-ecological perspective and research designed to enhance positive motivation, behavior, and emotional health in classrooms, schools, and communities is examined. Emphasis is placed on understanding social and emotional development in the contexts of classrooms, schools, families, peer groups, neighborhoods and the broader society.

Students will begin to articulate a personal philosophy of classroom management

**LSI 461 COLLABORATIVE PRACTICE AND SPECIAL EDUCATION**

The purpose of this course is to develop pre-service teachers' understanding of the importance of developing and maintaining collaborative relationships with parents and professionals in educational environments. Students will develop an understanding of professional and legal responsibilities, networks, organizations, and services available for students with disabilities and their families. Students will also examine various educational models for working collaboratively with teachers, parents, and support personnel in classrooms and schools. Students will articulate a personal philosophy and strategies for working collaboratively with families, teachers, paraprofessionals, and other professionals within educational environments.

**LSI 462 INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH DISABILITIES I: ACCESSING GENERAL EDUCATION CURRICULUM**

This course focuses general theories of learning, instructional modifications, accommodations, grouping strategies, technology, and assessments used for helping to provide students with disabilities access to general education curricula. Course topics will focus on the effectiveness of these strategies for working with students with mild, moderate, and severe disabilities. Students will begin to articulate a personal philosophy and approaches designed to enhance the educational experiences of children and youth with disabilities and they will begin to examine the relationship between schooling and long term outcomes.

**LSI 463 INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH DISABILITIES II: DIAGNOSIS AND REMEDIATION**

This course focuses on diagnostic and prescriptive techniques for identifying, targeting, and remediating social, academic, cognitive, and physical difficulties. These issues will be approached from an individual needs based perspective. Strategies and interventions designed to improve functioning in the above areas will be examined and, utilizing applied behavior analysis and technology, students will learn to target, monitor and intervene in need areas. All topics will incorporate the importance of skill generalization and post-school outcomes.

**LSI 464 PROBLEMS AND ISSUES IN SPECIAL EDUCATION**

This course examines some of the legal, ethical and social issues related to the system of special education from a socio-historical perspective. Some of the topics will include: the social construction of special education; the assumptions of deficit vs. difference models of educational services; the overrepresentation of students of color and students from lower socioeconomic status backgrounds in special education; placement settings, inclusion, and service delivery models; and issues related to the short and long-term effects of special education on the lives of children and youth (transition).

**LSI 465 INDUCTION INTO THE FIELD OF EDUCATION**

Designed primarily as a culminating course experience at the graduate level, this course utilizes a seminar approach to help students clarify their understanding of issues related to special education, general education, and teaching in urban schools. All students will prepare a portfolio based on their experiences within the graduate program. These portfolios will contain evidence of each student's development during the program and students will make connections between their own theoretical, philosophical, and professional orientations and the Urban Professional Multicultural Model.

**LSI 540 TESTING AND DIAGNOSIS/READING & LEARNING  
DISABILITIES:PRACTICUM IV (PREREQUISITE(S): LSI 445)**

Additional exposure to diagnostic testing in a clinical setting. Students evaluate children and adolescents with learning problems. Under close supervision, students administer and interpret tests, deal with the ethics of testing and interpretation, and communicate results to parents, schools and other agencies. PREREQUISITE(S): LSI 445 and prior permission of instructor.

**LSI 542 TESTING/DIAGNOSIS OF READING & LEARNING  
DISABILITIES:PRACTICUM I (PREREQUISITE(S): LSI 445)**

Students participate in a clinical setting and evaluate children and adolescents with suspected learning problems. Under close instructor supervision, students will administer and interpret tests, deal with the ethics of testing, interpret and communicate results to parents, schools and other social agencies. PREREQUISITE(S): LSI 445 and prior permission of instructor.

**LSI 543 DIAGNOSIS AND REMEDIATION OF LEARNING  
DISABILITIES:PRACTICUM II (PREREQUISITE(S): LSI 445)**

Clinical observation and practical application of the diagnostic-remedial process by working in a supervised clinical setting with children and adolescents who have specific learning disabilities. PREREQUISITE(S): LSI 445 and prior permission of instructor.

**LSI 544 DIAGNOSIS AND REMEDIATION OF LEARNING  
DISABILITIES:PRACTICUM III (PREREQUISITE(S): LSI 445)**

Clinical observation and practical application of the diagnostic-remedial process by working in a supervised clinical setting with children and adolescents who have specific reading disabilities. PREREQUISITE(S): LSI 445 and prior permission of instructor.

**LSI 545 METHODS AND TECHNIQUES FOR TEACHING COMPREHENSION**

Comprehension is treated as an interactive process between reader, the instruction and the text. Using direct instruction and modeling, the teacher guides students in the interdependent use of prior knowledge, comprehension, metacognitive habits and attitudes when reading both narrative and expository texts.

**LSI 547 CREATIVE METHODS/MATERIALS FOR TEACHING READING IN THE  
MAINSTREAMED CLASSROOM**

Emphasis on the creative utilization of a variety of multisensory techniques and materials designed for teaching reading, and reading related skills to learning disabled in the regular classroom.

**LSI 548 INDEP STUDY IN READING AND OTHER LEARNING DISABILITIES  
(PREREQUISITE: PERMISSION)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

**LSI 549 THESIS RESEARCH IN SPECIALIZED INSTRUCTION (PREREQUISITE(S):  
SCG 410 AND APPROVED THESIS PROPOSAL)**

A Master of Arts candidate conducts original research, writes a thesis, and presents an oral defense before a committee of faculty members. PREREQUISITE(S): SCG 410 and approved thesis proposal.

**LSI 550 ASSESSMENT AND INSTRUCTION IN SOCIAL/ EMOTIONAL DISORDERS:  
PRACTICUM I**

Clinical observation and practical application of the diagnostic-remedial process by working in a supervised clinical setting with children and adolescents who have social/emotional disorders.

**LSI 551 ASSESSMENT AND INSTRUCTION IN SOCIAL/ EMOTIONAL DISORDERS: PRACTICUM II**

Clinical observation and practical application of the diagnostic-remedial process by working in a supervised clinical setting with children and adolescents who have social/emotional disorders.

**LSI 585 STUDENT TEACHING AND SEMINAR IN SPECIAL EDUCATION-ELEMENTARY EDUCATION**

Five school days per week in supervised teaching experience for a full academic quarter. Students will also attend a student teaching seminar one day per week where they will discuss issues related to this experience. Faculty advisors and the Director of Student Teaching, working in conjunction with individual students, will determine appropriate student teaching placements. Prerequisite: Permission required

**LSI 595 STUDENT TEACHING AND SEMINAR IN READING AND LEARNING DISABILITIES (PREREQ(S): SEE PRORGAM ADVISOR)**

(8 credits) Five school days per week in supervised teaching in a cooperating school for a full academic quarter together with opportunities for feedback and discussion of problems encountered. PREREQUISITE(S): Open only to students who have applied and been accepted into student teaching. See program advisor.

**LSI 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter.

**LSI 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases. In other words, students will need to be able to ask and answer such questions as "What is known about? What are major issues and themes?"

**LSI 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "How theories work."

**LSI 643 MISCUE ANALYSIS**

Theory and practice in miscue analysis is examined historically and currently. Focus is on increasing the range of instructional strategies available to the teacher of reading.

**LSI 645 WORKSHOP IN READING AND LEARNING DISABILITIES**

Topics of current interest to the regular education teacher and the special educator in a high-involvement seminar format.

**LSI 646 TEACHING READING TO THE DISADVANTAGED**

Consideration of the linguistic, demographic, cultural and educational factors believed to influence the teaching of reading to the disadvantaged. Examination of teaching methods and materials appropriate for disadvantaged students.

**LSI 647 CHILDREN'S LITERATURE**

This course will familiarize the student with various genres of quality children's literature and how to select books which are appropriate to children's developmental levels. Students will also be introduced to literature from various cultures and ethnic groups, and learn how to extend, evaluate, and use children's literature throughout the curriculum.

**LSI 648 CORRECTIVE READING PROBLEMS**

Techniques appropriate to the diagnosis of corrective reading problems in a classroom setting, along with methods and materials. Emphasis on informal assessment techniques and methods of instruction that allow for the creation of individualized learning environments in group settings.

**LSI 649 TEACHING READING IN THE CONTENT AREAS**

Focus on the special skills and problems involved in the teaching of reading in the content areas. Includes the place of content reading in the development of skilled reading and methods, and techniques of improving the teaching of reading in the content areas.

**MATHEMATICAL SCIENCES****MAT 400 APPLIED ABSTRACT ALGEBRA I****MAT 401 APPLIED ABSTRACT ALGEBRA II (PREREQ(S): MAT 400)****MAT 441 APPLIED STATISTICS I**

Parametric and non-parametric statistical inferential methods for the univariate and bivariate situations using SAS. Specific topics include classical and exploratory graphical & numerical methods of data descriptions; inference about means, medians, and associations including analysis of variance and linear regression. Data analytic projects are an integral part of the course. PREREQUISITE(S): One statistic course or consent of instructor.

**MAT 442 APPLIED STATISTICS II (PREREQ(S): MAT 441)**

A continuation of MAT 441. Repeated measures design, association, analysis of covariance, and multivariate relationships. Diagnostics and model building. Methods of categorical data analysis. Logistical regression and log-linear models. Data analytical projects using SAS are an integral part of the course. PREREQUISITE(S): MAT 441

**MAT 443 APPLIED STATISTICS III**

A continuation of MAT 442. The course material generalizes univariate methods of inference to multivariate situations using SAS. Specific topics include canonical correlation, discriminate analysis, principal component analysis, factor analysis, and multivariate analysis of variance. Emphasis in the course is on data analytic projects. PREREQUISITE(S): MAT 442

**MAT 448 STATISTICAL METHODS USING SAS (PREREQ(S): MAT 351 OR 451 OR CONSENT)**

The SAS programming language. Data exploration, description and presentation. Inference methods for continuous and categorical data. Analysis of variance models and regression procedures. PREREQUISITE(S): MAT 351 or 451 or instructor's consent.

**MAT 451 PROBABILITY AND STATISTICS I (COREQ(S): MAT 260 OR CONSENT)**

The course covers elements of probability theory; distributions of random variables and linear functions of random variables; moment generating functions; and discrete and continuous probability models. COREQUISITE(S): MAT 260

**MAT 452 PROBABILITY AND STATISTICS II (PREREQ(S): MAT 451)**

A continuation of MAT 451. More continuous probability model. Laws of large numbers and the central limit theorem. Sampling distributions of certain statistics. An introduction to the theory of estimation and principals of hypothesis testing. PREREQUISITE(S): MAT 451.

**MAT 453 PROBABILITY AND STATISTICS III (PREREQ(S): MAT 452)**

A continuation of MAT 452. More on hypothesis testing, most powerful, uniformly most powerful, and likelihood ratio tests. Introduction to the analysis of variance; linear regression; categorical data analysis, and nonparametric methods of inference. PREREQUISITE(S): MAT 452

**MAT 454 MULTIVARIATE STATISTICS (PREREQ(S): MAT 453)(CROSS-LISTED 354)**

The multivariate normal distribution. The general linear model. Multivariate regression and analysis of variance; discriminant analysis; principal component and factor analysis; applications and use of statistical software. PREREQUISITE(S): MAT 453.

**MAT 455 STOCHASTIC PROCESSES (CROSS-LISTED: 355) (PREREQ(S): MAT 453)**

Discrete Markov chains and random walks, birth and death processes, Poisson process, queuing systems, and renewal processes. PREREQUISITE(S): MAT 453.

**MAT 456 APPLIED REGRESSION ANALYSIS (CROSS-LIST: MAT 356) (PREREQUISITE: 348 OR 452)**

Simple linear, multiple, polynomial and general linear regression models. Selection of best regression equation and examination of residuals for homoscedasticity and other diagnostics. Use of statistical software. PREREQUISITE(S): MAT 453 and MAT 220 or MAT 262 or consent.

**MAT 457 NONPARAMETRIC STATISTICS (CROSS-LISTED: MAT 357) (PREREQ(S): MAT 453 OR CONSENT)**

Inference concerning location and scale parameters, goodness-of-fit tests, association analysis, and tests of randomness using distribution-free procedures. PREREQUISITE(S): MAT 453 or consent of the instructor.

**MAT 458 STATISTICAL QUALITY CONTROL (PREREQ(S): MAT 348 OR 451)**

History; Deming guide to quality; graphical techniques of process control; Schewhart's control charts for means, ranges, standard deviations, individual measurements, and attributes; process capabilities and statistical tolerance; cumulative-sum charts. product liability; acceptance sampling; product and process design; applications and case studies. PREREQUISITE(S): MAT 348 or 451.

**MAT 459 SIMULATION MODELS AND THE MONTE CARLO METHOD (CROSS-LST:359)(PREREQ(S): MAT 453)**

Techniques of computer simulation of the classical univariate and multivariate probability models, and such random processes as random walks, Markov chains, and queues. PREREQUISTE(S): MAT 453

**MAT 460 TOPICS IN STATISTICS (PREREQUISITE: INSTRUCTOR CONSENT)**

One of the following topics: Clinical trials; Reliability and life testing; Categorical data analysis; Meta analysis; Survival Models. PREREQUISTE(S): consent of instructor.

**MAT 461 ACTUARIAL SCIENCE I: THEORY OF INTEREST (CROSS-LISTED AS MAT 361) (PREREQ(S): MAT 152 OR 162)**

Theory of Interest: Theory and application of compound interest to annuities, amortization schedules, sinking funds, bonds, and yield rates. PREREQUISTE(S): MAT 152 or MAT 162 or equivalent.

**MAT 462 ACTUARIAL SCIENCE II: BASIC CONTINGENCIES (CROSS-LISTED: MAT 362)(PREREQ(S): MAT 461)**

Basic Contingencies: The theory and applications of contingency mathematics in life and health insurance annuities and pensions, from both a probabilistic and a deterministic viewpoint. Topics include survival distribution and life tables, life insurance and life annuities. PREREQUISTE(S): MAT 461.

**MAT 463 ACTUARIAL SCIENCE III: ADVANCED CONTINGENCIES (CROSS-LISTED AS 363) (PREREQ(S): 462)**

Advanced Contingencies: A continuation of MAT 462. Topics include net premiums, net premium reserves, multiple life functions, multiple decrement models, and valuation theory for pension plans. PREREQUISTE(S): MAT 462.

**MAT 464 STOCHASTIC RISK MODELS (PREREQ(S): MAT 453)**

Introduction to risk theory and applications. Economics of insurance, individual risk models for short-term and single-term, collective risk models over an extended period, and applications. PREREQUISTE(S): MAT 453.

**MAT 465 STATISTICAL SURVIVAL MODELS (PREREQ(S): MAT 453)**

(Cross-listed as MAT 365) Mathematical methods for population analysis and survival models. PREREQUISTE(S): MAT 453.

**MAT 466 MATHEMATICAL DEMOGRAPHY (PREREQ(S): MAT 453)**

Introduction to demography, mortality table construction and methods of population and demographic analysis. PREREQUISITE(S): MAT 453

**MAT 467 CREDIBILITY THEORY (PREREQ(S): MAT 462)**

Credibility theory and loss distributions with applications to casualty insurance classification and ratemaking. PREREQUISTE(S): MAT 462.

**MAT 468 MATHEMATICAL METHODS IN FINANCE (PREREQ(S): MAT 338, 355 & FIN 320 OR PERMISSION OF INSTRUCTOR)**

This course will be required of students in the Financial Mathematics concentration. The main topics will be stochastic calculus and partial differential equations leading up to a derivation of the Black-Scholes option pricing model and its variants, along with discrete methods. This course should also be of interest to students of applied mathematics and physics. There will be opportunity to analyze real option data in conjunction with theory. Possible additional topics would include numerical methods, dividends, options on futures and exotic options. Prerequisite(s): MAT 338, 355 & FIN

320 or permission of instructor.

**MAT 470 ADVANCED LINEAR ALGEBRA (CROSS-LISTED AS MATH 370)  
(PREREQ(S): MAT 220 or 262)**

Matrix representation of linear transformations, inner product and rotations, eigenvalues and eigenvectors, diagonalization of symmetric linear transformations, principal axis theorem and positive definite quadratic forms, applications to geometry and statistics. PREREQUISTE(S): MAT 220 or MAT 262 or equivalent.

**MAT 481 FOURIER ANALYSIS AND SPECIAL FUNCTIONS (PREREQ(S): MAT 262 OR CONSENT)**

The course covers the basic principles of discrete and continuous Fourier analysis and some of its applications currently used in scientific modeling. Students will use the computer to implement the computational algorithms developed in the course. Some of the topics covered will include Fourier transforms and their application to signal and image processing, discrete Fourier series, the fast Fourier transform algorithm and applications to digital filtering, and the Radon transforms and its applications to tomography. PREREQUISTE(S): MAT 262 or equivalent.

**MAT 484 MATHEMATICAL MODELING (CROSS-LISTED AS MAT 384)  
(PREREQ(S): MAT 220 OR 262 AND MAT 451 OR 348.)**

Modeling of real world problems using mathematical methods. Includes a theory of modeling and a study of specific models, selected from deterministic stochastic, continuous and discrete models. PREREQUISTE(S): MAT 220 or 262 and MAT 451 or 348.

**MAT 485 NUMERICAL ANALYSIS I (CROSS-LISTED AS MAT 385) (PREREQ(S):  
MAT 220 or 262)**

Use of a digital computer for numerical computation. Error analysis, Gaussian elimination and Gauss-Seidel method, solutions of linear and nonlinear equations, function evaluation, cubic splines, approximation of integrals and derivatives, Monte Carlo methods. PREREQUISTE(S): MAT 262 or MAT 220 or equivalent and a programming course.

**MAT 486 NUMERICAL ANALYSIS II (CROSS-LISTED AS CSC 386/486, MAT 386)  
(PREREQ(S): MAT 485)**

Theory and algorithms for efficient computation including the Fast Fourier Transform. Numerical solution of nonlinear systems of equations. Minimization of functions of several variables. Sparse systems of equations and eigenvalue problems. PREREQUISTE(S): MAT 485

**MAT 487 OPERATIONS RESEARCH I: LINEAR PROGRAMMING (CROSS-LISTED  
AS MAT 387)(PREREQ(S): MAT 220 OR 262)**

The linear programming problem and its dual; the simplex method; transportation and warehouse problems; computer algorithms and applications to various fields. PREREQUISTE(S): MAT 220 or MAT 262 or equivalent.

**MAT 488 OPERATIONS RESEARCH II: OPTIMIZATION THEORY (CROSS-LISTED  
AS MAT 388)(PREREQ(S): MAT 487)**

Integer programming; nonlinear programming; dynamic programming. PREREQUISTE(S): MAT 487 or by consent of instructor.

**MAT 489 QUEUING THEORY WITH APPLICATIONS (PREREQ(S): MAT 453)**

Discrete and continuous-time Markov chain models, Queuing systems, and topics from renewal and reliability theory. PREREQUISTE(S): MAT 453.

**MAT 494 GRAPH THEORY AND NETWORK FLOWS**

Directed and undirected graphs. Bipartite graphs. Hamiltonian cycles and Euler tours. Flows in capacity-constrained networks.

**MAT 495 DYNAMIC PROGRAMMING**

Optimization of sequential decision processes. Markov decision models. Contraction mapping methods. Applications drawn from inventory theory and production control.

**MAT 496 GAME THEORY**

The minimax theorem for two-person, zero-sum games. Two-person general-sum games and noncooperative person games; Nash equilibrium.

**MAT 512 APPLIED TIME SERIES AND FORECASTING (CROSS-LISTED AS MAT 358) (PREREQ(S): MAT 453 OR 348)**

Development of the Box-Jenkins methodology for the identification, estimation and fitting of ARIMA, and transfer-function stochastic models for the purpose of analyzing and forecasting stationary, non-stationary, and seasonal time series data. The course emphasizes practical time series data analysis, using computer packages and includes applications to economic, business and industrial forecasting. PREREQUISTE(S): MAT 453 or MAT 348.

**MAT 526 SAMPLING THEORY AND METHODS (CROSS-LISTED AS MAT 326)(PREREQ(S): MAT 453 OR 348)**

Simple random, stratified, systematic and cluster sampling. Multistage and area sampling. Random-response and capture-release models. PREREQUISTE(S): MAT 453 or 348.

**MAT 528 DESIGN AND ANALYSIS OF EXPERIMENTS (PREREQ(S): MAT 348 OR 453)**

Single-factor fixed, random and mixed designs with and without restrictions on randomization s, including randomized block designs, Latin & Graeco-Latin squares. Factorial and fractional factorial experiments. Nested and split-plot designs. Confounding and response surface methodology. PREREQUISTE(S): MAT 453 or 348.

**MAT 599 INDEPENDENT STUDY**

Offered by arrangement. Approval by department chair required.

**MAT 600 MATHEMATICS SOFTWARE FOR TEACHERS****MAT 602 CANDIDACY CONTINUATION**

Non-credit. Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. \$40.00 per quarter.

**MAT 606 MATHEMATICS SOFTWARE FOR TEACHERS**

Introduction to various mathematical software packages for the investigation of significant mathematical ideas. Emphasis will be on the use of software in the high school classroom for the enhancement of students' discovery and understanding of fundamental mathematical concepts.

**MAT 607 LOGO FOR MATHEMATICS TEACHERS****MAT 608 SECONDARY SCHOOL MATHEMATICS CURRICULUM ISSUES**

Issues underlying the organization of mathematics curricula. Analysis of existing and proposed patterns of organization. Results of recent research in mathematics education regarding selecting and ordering content.

**MAT 609 TEACHING AND LEARNING SECONDARY SCHOOL MATHEMATICS**

Theories, methods, materials and techniques for teaching and learning mathematics in secondary, middle, and upper-elementary schools.

**MAT 610 CALCULUS AND ANALYSIS FOR MATHEMATICS TEACHERS I**

Real numbers, exponentials and logarithms trigonometric functions, limits, the derivative and its applications. Introduction to graphing calculators and some applications to classroom teaching.

**MAT 611 CALCULUS AND ANALYSIS FOR MATHEMATICS TEACHERS II  
(PREREQ(S): MAT 610)**

Concave and convex functions, optimization, the integral and its applications. Study of some numerical algorithms and implementation using graphing calculators  
PREREQUISITE(S): MAT 610.

**MAT 612 CALCULUS AND ANALYSIS FOR MATHEMATICS TEACHERS III  
(PREREQ(S): MAT 611)**

Methods of integration, first and second order differential equations and Taylor series. Applications to numerical analysis and approximation with graphing calculators.  
PREREQUISITE(S): MAT 611.

**MAT 620 GEOMETRY FOR SECONDARY SCHOOL MATHEMATICS TEACHERS**

Axiom systems, types of reasoning used in proofs, Euclidean geometry results with concentration on triangles and circles, introduction to non-Euclidean geometry, and introduction to geometry classroom software.

**MAT 621 EXPLORATIONS IN TURTLE GEOMETRY (PREREQ(S): MAT 620)  
(COREQ(S): MAT 611)**

**MAT 625 GEOMETRY, NUMBER PATTERNS, AND THE NCTM STANDARDS**

**MAT 630 HISTORY OF MATHEMATICS THROUGH PROBLEM SOLVING I**

Classical problems and techniques in number theory, algebra and geometry from a historical point of view. Stress on both historical aspects of mathematics and on solutions of concrete problems.

**MAT 631 HISTORY OF MATHEMATICS THROUGH PROBLEM SOLVING II  
(PREREQ(S): 630)**

Continuation of MAT 630. Topics include the development of calculus, probability theory, number theory, non-Euclidean geometry, and set theory. PREREQUISITE(S): MAT 630.

**MAT 640 MULTIVARIABLE CALCULUS FOR TEACHERS**

Functions of several variables, vectors, dot products and cross products, partial differentiation, directional derivatives, optimization, Lagrange multipliers, multiple integrals, polar spherical coordinates. Use of graphing calculators and computers to illustrate concepts.

**MAT 650 PROBABILITY & STATISTICS FOR MATHEMATICS TEACHERS I  
(PREREQ(S): MAT 611)**

Combinatorics, sets, probability, random variables, distribution and density functions, standard probability laws, jointly distributed random variables. Use of computers to illustrate distributions. PREREQUISITE(S): MAT 611.

**MAT 651 PROBABILITY & STATISTICS FOR MATHEMATICS TEACHERS II  
(PREREQ(S): MAT 650)**

Central limit theorem, point and interval estimation of parameters, hypothesis testing, least squares and regression. PREREQUISITE(S): MAT 650.

**MAT 660 DISCRETE STRUCTURES FOR MATHEMATICS TEACHERS**

Logic and proof, number theory, sequences and mathematical induction, sets and functions, cardinality recursion, and introduction to combinatorics.

**MAT 670 ABSTRACT AND LINEAR ALGEBRA FOR TEACHERS**

Number systems, polynomial rings, fields, vector spaces, and groups. This course provides the theoretical foundation for many topics covered in high school mathematics courses. PREREQUISITE(S): MAT 612 and MAT 660 or consent of program director.

**MAT 680 FOUNDATIONS OF CALCULUS FOR ADVANCED PLACEMENT  
TEACHERS**

Completeness properties of the real number line, limit theorems, the intermediate value theorem, the existence of the definite integral, differential equations, and slope fields. Students will review problems from recent AP Calculus examinations and each topic will be linked to specific problems on the AP exams.

**MAT 697 MATHEMATICAL PEDAGOGY: THEORY AND PRACTICE (CROSS-  
LISTED: MAT 397)**

Introduction to current theories and practices in college mathematics instruction; designed to prepare students to work as consultants in mathematics instruction by helping them develop a deeper understanding of fundamental mathematical concepts and an awareness of how people learn mathematical ideas. Mathematical tutoring practicum is required. Four-credit hour course offered over a two quarter span during the autumn and winter quarters only. PREREQUISITE(S): Permission of instructor. See instructor for further information.

**MAT 699 TOPICS IN MATHEMATICS FOR TEACHERS (PREREQUISITE: CONSENT  
OF INSTRUCTOR)**

Diverse topics in mathematical modeling or mathematical appreciation germane to the secondary school classroom. PREREQUISITE(S): consent of instructor.

## **MUSIC EDUCATION**

**MED 401 SEMINAR IN MUSIC EDUCATION I**

(4 credits) The courses are designed 1) to develop a philosophical and historical perspective of music education; 2) to study the psychology of music; 3) to study topics in curriculum design; 4) to encourage study and research in areas of student interest and need; and 5) to study contemporary issues in music education that can have significant impact on classroom teaching.

**MED 402 SEMINAR IN MUSIC EDUCATION II**

(4 credits) The courses are designed 1) to develop a philosophical and historical perspective of music education; 2) to study the psychology of music; 3) to study topics in curriculum design; 4) to encourage study and research in areas of student interest and need; and 5) to study contemporary issues in music education that can have significant impact on classroom teaching. PREREQUISTE(S): Successful completion of MED 401.

**MED 403 SEMINAR IN MUSIC EDUCATION III**

(4 credits). The courses are designed 1) to develop a philosophical and historical perspective of music education; 2) to study the psychology of music; 3) to study topics in curriculum design; 4) to encourage study and research in areas of student interest and need; and 5) to study contemporary issues in music education that can have significant impact on classroom teaching. PREREQUISTE(S): Successful completion of MED 402.

**MED 492 TECHNIQUES OF RESEARCH IN MUSIC EDUCATION**

This course will examine the basic questions, issues and theoretical frameworks central to the purpose, conceptualization, conduct, writing, reading, and the use of educational research as a means for informing educational theory, practice and policy.

**MED 498 MASTERS CANDIDATE RESEARCH****MED 499 INDEPENDENT STUDY****MUSIC ENSEMBLE****MEN 401 WIND SYMPHONY**

(1 credit) Study and rehearsal of basic and new band repertoire in preparation for concerts presented regularly each year. All MEN courses are repeatable courses. Placement audition required.

**MEN 405 GUITAR ENSEMBLE****MEN 413 TROMBONE CHOIR****MEN 421 MEN'S CHORUS**

(1 credit) Rehearsal and performance of men's and mixed choir repertoire. Auditions not required. All MEN courses are repeatable courses.

**MEN 422 WOMEN'S CHORUS**

(1 credit) Rehearsals and performance of women's and mixed choir repertoire. All MEN courses are repeatable courses.

**MEN 423 CONCERT CHOIR**

Rehearsal and performance of choral works from a variety of styles and historical periods. Audition not required for membership, but auditions for section placement are held at the beginning of each quarter.

**MEN 431 ORCHESTRA**

(1 credit) Study and rehearsal of basic and new orchestral repertoire. All MEN courses are repeatable courses. Placement audition required.

**MEN 432 BRASS QUINTET**

**MEN 433 BRASS CHOIR**

**MEN 437 WIND ENSEMBLE**

(1 credit) A select organization; rehearsal and performance of literature for ensembles of eight to 40 players, with special emphasis on original literature for winds, from all periods. All MEN courses are repeatable courses. Placement audition required.

**MEN 441 CHAMBER MUSIC**

(1 credit) A practical application of performance techniques for advanced instrumentalists and vocalists repertoire adapted to the instrumentation of the class, according to the ability of class members; public performance.

**MEN 447 UNIVERSITY SINGERS**

(1 credit) A choral ensemble of selected voices. All MEN courses are repeatable courses. Placement audition required.

**MEN 451 SAXOPHONE QUARTET**

**MEN 461 PERCUSSION ENSEMBLE**

**MEN 471 WOODWIND ENSEMBLE**

**MEN 485 JAZZ VOCAL ENSEMBLE**

(1 credit) Study, rehearsal and performance of literature for jazz ensemble. All MEN courses are repeatable courses. Placement audition required.

**MEN 486 JAZZ VOCAL WORKSHOP**

(1 credit) Survey of contemporary jazz and pop vocal techniques. Primary emphasis on developing jazz vocal solo and ensemble performance skills. All MEN courses are repeatable courses. Placement audition required.

**MEN 491 CONTEMPORARY ENSEMBLE**

(1 credit) Rehearsal and performance of a broad spectrum of contemporary music. All MEN courses are repeatable courses.

**MEN 498 INDEPENDENT STUDY**

**MANAGEMENT**

**MGT 500 BEHAVIOR IN ORGANIZATIONS (PREREQ: GRADUATE STANDING)**

Students will critically examine and creatively solve problems of managing individuals and teams within organizations. Fundamental principles of perception, attribution, motivation and learning will be applied as participants engage in the study of leadership, empowerment, team development, managing change and conflict, decision processes, power and politics and business ethics. PREREQUISITE(S): Graduate

Standing.

**MGT 501 STRATEGIC SUPPLY CHAIN MANAGEMENT (PREREQ: GRADUATE STANDING)**

This course examines how operations related strategic decisions can lead to improved market and competitive performance. We view the supply chain (of products or services) from a strategic point of view. Logistics and supply chain management is all about managing the hand-offs (of either information or product) in a supply chain. The design of an expedient logistics system is critically linked to the key decisions and objectives of a responsive and efficient supply chain (forecasting, aggregate planning, inventory management, matching supply with demand, transportation, location and information). We cover those topics with cases, spreadsheets and simulations to illustrate and help understand how logistical decisions impact the performance of the firm as well as the entire supply chain. PREREQUISITE(S): Graduate Standing.

**MGT 502 MANAGING OPERATIONS FOR COMPETITIVE ADVANTAGE (PREREQ: GRADUATE STANDING)**

At its core, business is about providing a superior product or service. This course analyzes the processes used to deliver products in the marketplace. Several world class firms have demonstrated that effective operations management can be a potent competitive weapon. This course addresses the key operations and logistical issues in service and manufacturing operations, which have strategic as well as tactical implications. Both quantitative and qualitative techniques and principles used by leading organizations are examined. Examples of world class operations are drawn from both the manufacturing and service sectors. PREREQUISITE(S): Graduate Standing.

**MGT 505 SUPPLY CHAIN MANAGEMENT (PREREQ: MGT 502)**

This course emphasizes a systems approach to materials management theory and practice. Covers aggregate level production planning, master scheduling, material requirements planning, capacity planning, production activity control and inventory planning and control. Integrates these planning and control systems with other major systems in the firm, especially in marketing, engineering, purchasing, manufacturing and distribution. PREREQUISITE: MGT 502.

**MGT 506 DECISION MAKING FOR MANAGERS (PREREQUISITE MGT 502)**

This course addresses Simon's three-phase problem-solving model. Students learn how to improve problem diagnosis through statistical and logical tools, creatively generate alternative solutions, and make effective decisions through decision analysis and by building decision support models. Students will use a various spreadsheet applications to aid in the decision-making process. PREREQUISITE: MGT 502.

**MGT 508 QUALITY MANAGEMENT SYSTEMS (PREREQ: MGT 502)**

Organizations seeking to improve their customer satisfaction, operating efficiency, and profitability frequently turn to quality management initiatives--including; Total Quality Management, Business Process Reengineering, Six Sigma. and ISO Quality Standards. The lessons learned through the success and failure of these programs provide valuable insights to managers seeking to achieve performance excellence within their own organizations. The course relies on the Malcolm Baldrige National Quality Award framework and case analysis to explore successful quality management initiatives. Prerequisite: MGT 502.

**MGT 510 PROCESS IMPROVEMENT AND CONSULTING TECHNIQUES (PREREQ: MGT 502)**

This course explores the techniques and methods commonly used by leading management consultants and internal project leaders to improve the performance of service-delivery and manufacturing processes. Procedures to support both continuous improvement and process reengineering are addressed. A formal, but flexible problem solving methodology --similar to that used in many consulting firms-- is developed. Techniques to manage cross-functional process improvement teams and relevant project management skills are explored. In addition, the opportunities for process improvement presented by ongoing developments in information technology and production methods are examined. Prerequisite: MGT 502.

**MGT 518 LABOR ECONOMICS AND LABOR RELATIONS (CROSS-LISTED AS ECO 518) (PREREQ: MGT 555)**

Cross-listed with ECO 518. See description of ECO 518. PREREQUISITE(S): MGT 555.

**MGT 521 MANAGEMENT OF FAST GROWING FIRMS (PREREQ(S): ACC 500, MGT 500 & 502 BLW 500, ECO 500 & 509 AND IB 500)**

Alternative growth strategies for companies in the second stage of their life cycle are examined. After initial start-up, a unique set of problems and constraints confront the firm limiting its growth. Expansion of product line and services, new market development, redefinition of organizations, financial resource allocation, second stage financing using a case study approach, and going public are some issues that are covered. Proposed revisions are critically evaluated. PREREQUISITE(S): ACC 500, MGT 500, MGT 502, BLW 500, ECO 500, ECO 509 & IB 500.

**MGT 523 RECRUITMENT AND SELECTION (PREREQ: MGT 555)**

An advanced study of current recruitment and selection practices of organizations both public and private. Emphasis is placed on common tests that are used and an examination of these tests for applicability in specific situations. Legislation related to EEO and Affirmative Action programs are discussed. PREREQUISITE(S): MGT 555.

**MGT 525 TRAINING AND CAREER DEVELOPMENT (PREREQ: MGT 555)**

An intensive study of personnel training and development in contemporary organizations. Emphasis is placed upon the identification of training needs, program design, choice of training methods, and evaluation of results. Classroom activities focus on application with students designing and presenting training seminars. PREREQUISITE(S): MGT 555.

**MGT 526 COMPENSATION (PREREQ: MGT 555)**

An in-depth treatment of pay and benefit practices including job evaluation, salary structures, salary surveys, performance-based pay, including special topics such as executive compensation, sales compensation, and employee benefits. The objective of this class is to help line managers and human resource department staff members understand how to link reward programs to business strategy, how to use such programs to motivate and retain employees, and how to design and evaluate such programs. Theory and practice are combined in practical projects. PREREQUISITE: MGT 555.

**MGT 530 LEADERSHIP IN ORGANIZATIONS**

This course utilizes a theoretical framework to provide a foundation of understanding of effective leadership in organizations. The opportunity for self-assessment of leadership strengths and management styles, as well as reflection and action planning for individual leadership development, is also provided. To enhance self-assessment, there are questionnaires, as well as classroom exercises, experienced in a supportive group

environment. Examples of effective organizational leadership are also critically examined in case studies. Current leadership topics to be covered include values and vision, strategy, organizational culture, management style, leading groups and teams, and coaching, thus providing analysis from both the macro and micro organizational levels.

**MGT 535 CHANGE MANAGEMENT (PREREQ: MGT 500)**

This course is targeted towards external and internal consultants, as well as managers and other change agents within organizations. Change Management fosters improved competency in the skills necessary during all phases of the change process - from diagnosis, to interventions, through evaluation. Organizational change issues are critically examined, and case studies, exercises, and assessments are utilized, to better understand change from organizational, group, and individual levels. Change models serve as frameworks that emphasize the importance of interactive consultative processes. A major organizational change project is required of all students. PREREQUISITE: MGT 500.

**MGT 545 MANAGING SERVICE OPERATIONS (PREREQ: MGT 502)**

This course provides an examination of operating activities in service industries. Emphasis is on the principles of design, operation and control of service delivery systems. Lectures, cases and assignments focus on such topics as delivery system design, client interfaces, operations control, capacity management and quality control. PREREQUISITE(S): MGT 502.

**MGT 555 STRATEGIC MANAGEMENT OF HUMAN RESOURCES (PREREQ: MGT 500 OR EQUIVALENT)**

This course will help students understand how the management of people is influenced by the social, ethical and legal environment; by diversity in the work place; by the organizational culture; and by the business strategy. The course is taught from an operations management perspective. Students will learn how to effectively perform the following HR activities: selecting employees, developing people, evaluations and rewarding performance, and motivating employees. PREREQUISITE(S): MGT 500 or equivalent.

**MGT 560 LABOR RELATIONS LAW AND GOVERNMENTAL POLICY**

A survey statute, case and administrative law in the private sector. Attention is focused upon the union-organizing process and the respective roles of the National Labor Relations Board, the courts and the arbitration process. The course is taught from a neutral perspective, emphasizing the legitimate legal rights and obligations of both unions and employers.

**MGT 561 LABOR-MANAGEMENT RELATIONS: LAW AND PRACTICE**

An examination of the labor negotiation process, including the ritual of bargaining and various impasse resolution procedures. Mandatory, permissive and illegal subjects of bargaining are identified and discussed, as is the legal obligation to bargain in good faith. The course is taught from a neutral perspective, highlighting the legitimate interests of both employers and unions.

**MGT 562 RESOLVING CONFLICT IN ORGANIZATIONS (PREREQ(S): MGT 500 and MGT 555)**

Comprehensive study and skill building exercises devoted to the development of skills necessary for managers to resolve and manage conflict within their organizations. For illustrative purposes, discussions and exercises will be in the context of employment disputes, discrimination disputes, and/or labor-management disputes. However, the skills attained in the course may be successfully used to resolve any type of conflict.

Included will be a discussion of various dispute resolution methodologies including the mediation, arbitration, and investigation of asserted conflicts, real or perceived, as well as the design of dispute resolution processes and related issues of organizational fairness, justice, and ethics. PREREQUISITE(S): MGT 500 and MGT 555.

**MGT 563 NEGOTIATION SKILLS (PREREQ: MGT 555)**

The nontraditional course relies predominantly upon experiential learning to enhance students' ability to get what they want through negotiation. It is a skill-building course designed to help each individual student become persuasive, both personally and professionally. The course makes use of lecture, class discussion, various stress negotiation assignments and a major bargaining exercise. It builds upon failures as well as successes, enabling students to identify their own individual negotiations style. Students completing the course will have developed the ability to compete successfully in future negotiation situations at all levels and to refine the tools and techniques they learned during the quarter. PREREQUISITE(S): MGT 555.

**MGT 565 EMPLOYMENT LAW**

The purpose of the course is to identify how a supervisor or firm owner is legally regulated in connection with the management of her or his workforce, as well as the management implications of the regulation. In this way, the student will learn of the legal ramifications of human resource management decisions. Topics which will be addressed include discrimination on the basis of age, gender, race, religion, disability and national origin, sexual harassment, drug and other forms of testing, regulation of hiring and firing decisions, privacy rights and regulation of off-work conduct. Class activities may also focus on understanding bias and prejudice in managerial decision-making.

**MGT 570 ENTREPRENEURSHIP/NEW VENTURE MANAGEMENT (PREREQ:ACC 500,MGT 500,MGT 502,BLW 500,ECO 509, ECO 500,IB 500)**

The focus of the course is on new venture initiation and the preparation of a business plan that can be used to generate financing and to begin operations in a new business enterprise. It examines the critical factors involved in the conception, initiation and development of new business ventures. Topics covered include the identification of characteristics of prospective entrepreneurs, identifying innovations, market potential analysis for new products or services, acquiring seed capital, obtaining venture capital for growth or purchase of an existing business and organization and operation of the new business. Each student is required to develop a business plan which will be presented to the class. Students wishing to start, develop, acquire, sell or merge a business are encouraged to do so. PREREQUISITE(S): ACC 500, MGT 500, MGT 502, BLW 500, ECO 509, ECO 500, and IB 500.

**MGT 572 CORPORATE VENTURE MANAGEMENT (PREREQ:ACC 500,MGT 500,MGT 502,BLW 500,ECO 509, ECO 500,IB 500)**

The focus of this course is on how corporations develop new ventures. It critically examines the circumstances that make it possible for employees to contribute their venture ideas to the corporate objectives and describes techniques that stimulate such ideas. Although the primary focus will be on the employee and how the individual can be entrepreneurial within a corporate structure, the course also examines how the corporation can systematically encourage innovation. Case studies of corporate ventures projects will be reviewed. PREREQUISITE(S): ACC 500, MGT 500, MGT 502, BLW 500, ECO 509, ECO 500, and IB 500.

**MGT 573 CREATIVITY IN BUSINESS**

This course explores the nature and role of creativity in organizations. Theories and modes of creative thinking, and the link between creativity and innovation are

presented. The course format is largely experiential, with emphasis on group and individual exercises, techniques, simulations and cases, through which students will investigate the creative process in a variety of organizational settings. The role of managers and team members in nurturing and sustaining a creative enterprise is discussed. The course is designed to open students to the creativity within themselves and organizations, and to the tools with which creativity can be managed to promote innovation and enhance organizational effectiveness as well as satisfaction and quality of work life.

**MGT 590 MANAGEMENT OF INNOVATION AND TECHNOLOGICAL CHANGE (PREREQUISITE: MGT 502.)**

The ability to manage technological innovation has become an increasingly essential requirement for business people regardless of functional specialty. The objective of this course is to explore ways to create environments that are conducive to technological innovation. Throughout the course students examine practices, models, and approaches that established, as well as new, organizations employ to promote innovative practice, technological change, and new technologies. The following topics will be covered: the innovation process, managing technical people, the impact of organizational design on innovation, knowledge management, cross function teams and exploiting new technologies. Students will research new technologies and discuss potential business applications and issues associated with those technologies. PREREQUISITE: MGT 502.

**MGT 597 GLOBAL BEST PRACTICES (PREREQUISITES: MGT 500 and MGT 555)**

The emphasis of this course is global business focusing on best corporate practices as well as theory. The course will cover current operations management and human resource management business practices, which includes Customer-Focused Organizations, R & D Management, Effective Process Design, Project Management, Cross-Cultural Human Resource Management, Performance Assessment, Compensation, Environmental Decision Making, and Diversity Management. The theory dimension of the course will be provided by faculty input; the experience dimension will be provided by select executives from companies that best exemplify the theory being presented. For each topic, various educational methodologies, i.e. lecture, cases, video, individual and group exercises, reading materials (articles, booklets, and monographs) will be used. Students completing the course will be able to effectively implement and benchmark best business practices in an emerging and mature global organization. PREREQUISITES: MGT 500 and MGT 555.

**MGT 598 PROJECT MANAGEMENT (PREREQUISITE: MGT 502)  
SEMINAR IN OPERATIONS MANAGEMENT**

This course covers management techniques that are applicable to a wide variety of project types including new product development, business start-ups, marketing campaigns, facility relocations, construction, research programs, and special events. Emphasis is on scheduling, budgeting, and control including the selection and application of project management software. Other topics include project organization, qualifications and roles of the project manager, project leadership, team building, and the management of conflict and stress in projects. PREREQUISITE(S): MGT 502.

**MGT 793 MANAGEMENT INTERNSHIP (PREREQ: PERMISSION)**

This is a unique opportunity in which interns gain and develop managerial skills, providing a link to mastering the dynamics of running a business. This hands-on experience allows the intern to apply his or her skill/wisdom to the work place and provides invaluable knowledge that is crucial for future advancement. While building an impressive resume for further job opportunities, the intern will be immersed in a stimulating environment with a pool of established resources. In addition, networking

opportunities avail themselves to build future relationships. PREREQUISITE(S): Permission.

**MGT 798 SPECIAL TOPICS (PREREQ(S): AS INDICATED IN SCHEDULE)**

Content and format of this course are variable. An in-depth study of current issues in management. PREREQUISITE(S): As indicated in schedule.

**MGT 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in management. PREREQUISITE(S): Written permission.

## **MANAGEMENT INFORMATION SYSTEMS**

**MIS 555 MANAGEMENT OF INFORMATION TECHNOLOGY (PREREQ: ACC 500)**

This course focuses on the management and use of information technology (IT). As the use of IT in society grows, particularly in business, our graduates are likely to become responsible for managing some technology resources and to participate in IT planning and development projects as founders, sponsors, team members, managers of development or end-user developers. Students should become effective users and evaluators of information, IT, and information services. The course explores a number of IT-related topics such as the strategic role of IT, IT planning and architecture, building the telecommunication highway system, management issues in systems development, the expanding universe of computing, group support systems, intelligent systems, electronic document management, and managing the human side of systems. PREREQUISITE: ACC 500

**MIS 673 DATABASE ANALYSIS AND DESIGN (PREREQ: MIS 555)**

Data has been recognized as an important corporate resource and databases have evolved into a central component of business information systems. Topics include semantic data modeling using entity-relationship and object models; data structuring with normalization; relational database design, implementation and manipulation with SQL (Structured query language); and some evolving technologies such as data warehousing, on-line analytical processing, object-oriented databases, and data visualization. Hands-on exercises include the use of a relational database system with SQL and data modeling CASE (computer-aided software engineering) tools. PREREQUISITE (S): MIS 555

**MIS 674 SYSTEMS ANALYSIS AND DESIGN (PREREQ: MIS 555)**

The focus of this course is on the early phases of information systems development starting with requirements analysis and specification. Alternative systems development methodologies including conventional structured approaches are reviewed but the emphasis is on distributed processing together with object-oriented analysis and design, rapid application development and prototyping, the use of CASE (computer aided software engineering) tools and GUI ( graphical user interface) design with event-driven computing. PREREQUISITE (S): MIS 555.

**MIS 676 SYSTEMS PLANNING AND IMPLEMENTATION (PREREQ: MIS 555)**

This course stimulates an information systems project. It summarizes and extends the concepts of process-, data-, and object-oriented methodologies, related CASE tools and integrates the techniques presented in the prerequisite courses. It also covers additional topics of interest to systems developers and managers. A major component

of the course involves field projects in which students play the role of MIS consultants. This includes discussion of the consultancy process, the interview process, precise problem formulation, team building, oral presentations, report writing and techniques for researching hardware and software. PREREQUISITE (S): MIS 555.

**MIS 677 INFORMATION SYSTEMS PROJECT MANAGEMENT (PREREQ: MIS 555 OR EQUIVALENT)**

Information systems projects are often late, over-budget, technically inoperable, operationally infeasible and in some cases never finished. One of the roots of this problem has been the lack of experienced management. What is needed are appropriate managerial procedures of estimating, planning, scheduling and control. This course will define the essential components of good management of any kind of project, but the emphasis will be on management of information systems and technology projects. PREREQUISITE (S): MIS 555 or equivalent.

**MIS 680 ELECTRONIC BUSINESS (PREREQ: MIS 555 OR EQUIVALENT)**

Although this course provides an understanding of evolving Internet technologies, it primarily explores the business implications of these fascinating developments. It explores the tools, skills, business and social implications of emerging electronic business. In addition to acquiring basic skills for navigating the Internet and creating a personal and business presence on the World Wide Web, the student reexamines fundamental processes of business as they are performed in cyberspace in contrast to the marketplace. This helps students evolve a perspective about business in the 21st century and helps them understand changes, as cyberspace grows increasingly important in the global economy. PREREQUISITE (S): MIS 555 or equivalent.

**MIS 681 E-BUSINESS STRATEGIES (PREREQ: MIS 680)**

This course is focused on business strategy implications of the digital economy. It is primarily a case-based course, where students learn to develop and use the managerial and strategic reasoning skills needed to guide their organizations in the turbulent digital economy. This is a hands-on class only to the extent that students use the existing web infrastructure to facilitate their interactions with other students, such as team members and the instructor. PREREQUISITE: MIS 680

**MIS 682 E-BUSINESS INTERFACE DESIGN (PREREQ: MIS 555)**

This course focuses on the three discrete segments of E-Business interfaces. (1) a study of E-Business interfaces- their layout, design, navigation components for their business purpose and viability. (2) a technology transfer of the tools of the trade used to construct these interfaces. (3) development of effective web interfaces using these tools. This course is technical and creative, but it also engages in a study of business purpose and viability of interface design. PREREQUISITE(S): MIS 555.

**MIS 683 INFORMATION TECHNOLOGY STRATEGY AND ARCHITECTURE (PREREQ(S): MIS 674 AND 676 OR EQUIVALENT)**

This course addresses the fundamental aspects of developing an information technology (IT) strategic plan and the enabling IT architecture to support enterprise business processes. Students explore the importance of strategic alignment of business and technology as well as the contribution IT has on the value chain. Students will be able to more effectively use and manage IT from an enterprise view and from an architectural perspective. The course includes lectures, practical case discussions and current events in the industry. It also explores how IT can be leveraged to improve shareholder value, customer satisfaction and the competitive position of the firm. This is intended to be an advanced level managerial course for practitioners who have ambitions to be a senior IT executive, management consultant or a technical analyst. PREREQUISITE(S): MIS 674

and MIS 676 or equivalent.

**MIS 684 ETHICAL AND SOCIAL ISSUES IN INFORMATION TECHNOLOGY  
(PREREQ: MIS 555)**

Reliance upon computers and networks to conduct business raises a myriad of ethical and social issues including individual and corporate privacy, security of business transactions and of employee records, employee rights and responsibilities, and protection of intellectual property. Making extensive use of information available on the Internet, this course will explore ethical and social issues facing today's computer professionals in the creation and maintenance of computer systems. PREREQUISITE (S): MIS 555.

**MIS 686 TELECOMMUNICATIONS MANAGEMENT (PREREQ: MIS 555)**

This is a nontechnical introductory course intended to familiarize the students with the field of telecommunications. It covers the basic technologies employed in voice and data communication systems and their business applications. The structure, regulation and history of the telecommunications industry will be discussed as well. This course is useful to students without previous training in telecommunications. In addition, professionals who already have a specific knowledge in a particular aspect of telecommunications should find this course valuable in broadening their knowledge of the field. PREREQUISITE (S): MIS 555.

**MIS 689 KNOWLEDGE MANAGEMENT (PREREQ: MIS 555)**

Leading organizations are moving to create new knowledge and systematically take advantage of this wealth of accumulated knowledge. This course explores the new strategies, processes and technologies supporting knowledge from a management perspective. Topics include the development and creation of new knowledge, knowledge support systems, the replacement of human decision-making by technology, and the maintenance and dissemination of knowledge. The course includes reading, lecturettes, case discussions and a project. PREREQUISITE (S): MIS 555.

**MIS 798 SPECIAL TOPICS**

Content and format of this course are variable. It involves an in-depth study of current issues in information systems and technology. Subject matter constantly changes and will be indicated in class schedule.

**MIS 799 INDEPENDENT STUDY (PREREQ: MIS 555 AND WRITTEN PERMISSION)**

Available for graduate students of demonstrated capability for intensive independent work in information systems. PREREQUISITE(S): MIS 555 and written permission.

## **MARKETING**

**MKT 525 MARKETING RESEARCH I (PREREQ: GRADUATE STANDING)**

(Required for Marketing concentration) This course provides an overview of the nature of marketing research and its role in decision-making with the organization. Specifically the students will concentrate their efforts on understanding the process of research design and implementation. PREREQUISITE(S): GRADUATE STANDING

**MKT 526 MARKETING RESEARCH II (PREREQ: MKT 525)**

Those students interested in more extensive marketing research experience should enroll in this course. The student will begin with a data set and work closely with the instructor in performing data analysis and developing a format for presentation of results. PREREQUISITE(S): MKT 525.

**MKT 528 QUALITATIVE RESEARCH METHODS (PREREQ: MKT 525 & MKT 545)**

Qualitative Research Methods will explore non-survey and non-experimental techniques useful in researching issues with marketing implications. Lectures and reading assignments will be punctuated with experimental exercises, videotapes, and student presentations. Topics will include question design, content analysis, and unstructured or simple observation. Projective techniques and other indirect methods, in-depth/in-person interviews, and focus group sessions. Offered variably. PREREQUISITE(S): MKT 525 and MKT 545.

**MKT 529 PRECISION MARKETING WITH GEODEMOGRAPHIC (PREREQ: MKT 555)**

Geodemographic systems such as Claritas and Spectra combine publicly available demographic data with commercial databases and mapping software. These tools, which are used by most Fortune 1000 consumer firms, enable marketers to pinpoint target markets and create effective strategies for a variety of marketing activities. Course topics include the strengths and weaknesses of different approaches, identification of a geodemographic target market, and the use of geodemographic data for advertising and promotion, retail site selection, cross-selling opportunities, and other strategic decisions. PREREQUISITE(S): MKT 555.

**MKT 530 DATABASE MARKETING (PREREQ: MKT 555)**

This course will explore the use of business customers and consumer databases to effectively market new and existing products and services, and to build and maintain customer relationships. Students will explore strategies for creating, integrating, and leveraging databases in order to identify and characterize customers and prospects, and to add value to the customer experience. They will learn how electronic linking of static customer data from internal and external sources with varieties of customer touch point data can inform and add value to future customer interactions, enable effective segmentation, targeting, and marketing communications, and facilitate customer valuation and the effective deployment of marketing resources. PREREQUISITE(S): MKT 555.

**MKT 534 ANALYTICAL TOOLS FOR MARKETERS (PREREQ: MKT 555)**

This course seeks to provide an in-depth understanding of both qualitative and quantitative analytical tools that are of critical importance to marketers. These tools will help marketers avoid head-to-head competition, understand customer perceptions, understand customer preferences, develop accurate sales forecasts, and financially value marketing strategies. The course is designed to be "hands-on" in that students will develop understanding mainly through conducting application projects and presenting results. The course is also designed to be immediately applicable to marketers' current and future jobs. PREREQUISITE(S): MKT 555.

**MKT 535 MARKETING STRATEGIES AND PLANNING (PREREQ: MKT 555)**

The basic elements of planning including the identification of the company's basic purpose and mission and their translation into specific objectives. Strategies to accomplish objectives are fused from marketing, financial, and manufacturing elements but emphasizing marketing elements. This course focuses on the contribution of marketing to the establishment of company policies, objectives, and marketing planning. PREREQUISITE(S): MKT 555.

**MKT 537 NEW PRODUCT MANAGEMENT (PREREQ: MKT 525)**

The course has four objectives: first, to familiarize participants with how firms manage the conceptualization, development and launch of new products and services; second, to develop a systematic process for new product development that matches the existing business context; third, to give participants knowledge of some useful and immediately applicable tools that will enable them to participate and lead a team that effectively translates a firm's strategy and customer needs into successful products and services; and finally, help participants understand the impact of company dynamics in affecting the new product development process. PREREQUISITE(S): MKT 525.

**MKT 545 CONSUMER BEHAVIOR (PREREQ: MKT 555)**

(Required for Marketing concentration) A review of the various theories, models, and techniques that attempt to explain consumer behavior. The course consists of lecture-discussions of behavioral theories, the empirical findings of contemporary research, and case studies designed to illustrate the salient issues involved in developing consumer-oriented marketing strategies. PREREQUISITE(S): MKT 555.

**MKT 550 MARKETING TO BUSINESS (PREREQ: MKT 555)**

The marketing of business goods and services to other businesses (B:B) is more significant in our economy than consumer marketing and is the key to the continued success and productivity of the U.S. economy. In this course, the principles and practices of interindustry marketing will be explored by case analysis. The factors which must be considered before establishing marketing programs manufacturers, service industries and exporters will be examined. Examples will be drawn from varied industries, including equipment, electronics, computer systems, health care and others. New product introduction, distribution, and other marketing strategies will be emphasized. PREREQUISITE(S): MKT 555.

**MKT 555 DECISIONS IN MARKETING MANAGEMENT (PREREQ: GRADUATE STANDING)**

Students are provided with an overview of the marketing process for consumer-oriented firms. Focus is placed on decision-making that aligns a firm's market offerings with the wants and needs of targeted segments of customers within a continuously changing environment. Written cases/projects are part of the course assignment. PREREQUISITE: Graduate Standing.

**MKT 575 ADVERTISING AND SALES PROMOTION MANAGEMENT (PREREQ(S): MKT 545 & MKT 555)**

A study of the theories and techniques applicable to the development of the promotional mix. Class consists of analysis and development of objectives, budgets, message design and media selection, and measuring the effectiveness of these for mass design and direct promotional vehicles. PREREQUISITE(S): MKT 545 & MKT 555.

**MKT 576 EFFECTIVE BUSINESS COMMUNICATION**

This course is designed to expand the participant's communication skills through application of the principles of communication science and the psychology of persuasion in a contemporary business setting. Personal ethics and credibility are explored as important components of effective communication, both as individual's and as team members. Students are shown how to develop successful communication and message packaging strategies useful in a variety of communication venues including memos, meetings, briefings, interviews and individual and team presentations. Oral presentations and written communication techniques are explored including use of visuals, computer graphics, and layout techniques. The mechanisms of Speech Apprehension (stage fright) are presented as well as techniques for management and

reduction of this common, debilitating phenomenon. Personal ethics and credibility are explored as important components of effective communication.

**MKT 590 MARKETING OF SERVICES (PREREQUISITE(S): MKT 555)**

This course examines service organizations' distinctive approach to marketing strategy development and execution. Differences and similarities between the marketing of services and that of manufactured goods will be discussed. Other topics include measurement of quality and customer satisfaction, customer behavior and expectations, roles of service providers and customers, service competitive advantages, relationship management, overlap of service marketing with other organizational disciplines (e.g. H.R., operations, finance), organization design and value-chain impacts, outsourcing challenges and opportunities, global issues, macro environmental impacts, Business to Business and Business to Consumer examples and strategies in multiple vertical markets (e.g. financial services, technology, retail catalog, manufacturing, health care, hospitality & entertainment, automotive, government). Student groups will maintain service encounter journals which will be used as input to the group's analysis paper assignment. Two abbreviated exams will measure the student's grasp of service marketing concepts.

Group case analysis work will reinforce the course concepts. PREREQUISITE(S): MKT 555

**MKT 595 INTERNET MARKETING (PREREQ: MKT 555)**

Explores the emerging business models, rules, tactics, and strategies associated with this medium. Integration with other channels and marketing operations is stressed. Classes are discussion-based, drawing on current applied readings and cases from a variety of industries in both the business-to-business and business-consumer markets. Students wishing to concentrate in e-business must consult with KGSB advisors prior to taking this course. Offered: Autumn, Winter and Spring. PREREQUISITE(S): MKT 555.

**MKT 798 SPECIAL TOPICS (PREREQ: AS INDICATED IN SCHEDULE)**

Content and format of this course is variable. An in-depth study of current issues in marketing. PREREQUISITE(S): As indicated in schedule.

**MKT 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in marketing. PREREQUISITE(S): Written permission.

**MASTER OF ARTS IN LIBERAL STUDIES**

**MLS 401 VISIONS OF THE SELF**

A study of the differing visions of the self as presented in significant documents from the history of ideas. Materials selected from classic texts of literature, philosophy, theology, psychology and social science.

**MLS 402 PERCEPTIONS OF REALITY**

A survey, beginning with ancient Greece and ending with the modern world, of models of universal order as developed by natural scientists and literary and visual artists.

**MLS 403 THE AMERICAN EXPERIENCE**

A chronological and thematic study of the location of self within American culture. Readings chosen to reflect both dominant and dissenting ideas at specific points of American history.

**MLS 404 THE CITY**

A topical examination of the urban experience using the methods and sources of both historians and social scientists. Topics include survey of various images of the city, utopian and dystopian visions, and the uniqueness of the modern city.

**MLS 405 REPRESENTATIONS OF THE BODY**

This course will examine how the human body, which seems to be a natural, universal fact, is also a deeply cultural symbolic construction whose analysis yields insights into structures of power and consciousness.

**MLS 406 EXPLORING OTHER CULTURES**

Examination of the history, traditions, values and institutions that have shaped the lives of people in another culture. Analysis of the "terms of encounter," that is, the perspectives that students assume as they seek to encounter the "other" Variable to

**MLS 407 SELF, CULTURE AND SOCIETY IN CONTEMPORARY JAPAN**

Interdisciplinary examination of the political, economic and social order of contemporary Japan. Relationship of individuals and groups to the social order, as they create the reality of diversity and possibilities for change.

**MLS 410 COLLOQUIUM**

**MLS 411 COLLOQUIUM**

**MLS 412 COLLOQUIUM**

**MLS 413 SURVIVAL IN A NUCLEAR AGE**

**MLS 414 PERSPECTIVES ON ADULTHOOD**

**MLS 415 THE HUMAN SIDE OF HIGH TECH**

**MLS 416 THE DIMENSIONS OF MODERN SCULPTURE**

**MLS 417 SHAKESPEARE: A MAN FOR MANY ARTS**

**MLS 418 COLLOQUIUM: RECONSTRUCTING PUBLIC LIFE**

**MLS 419 CHICAGO: TOWARDS THE 21ST CENTURY**

**MLS 420 COLLOQUIUM**

**MLS 427 TOPICS IN COMMUNICATION AND CULTURE**

Topics in Communication and Culture. Variable topics relating to cross-cultural communication, culture and media, cultural difference in communication, and communication issues in multiculturalism. Consult current course schedule for topic.

**MLS 428 TOPICS IN ORGANIZATIONAL COMMUNICATION**

Variable topics relating to communication issues in organizational settings, including power, institutional culture and change, training, and multicultural factors. Consult current course schedule for topic.

**MLS 430 COLLOQUIUM**

Topics vary. See schedule for current offering.

**MLS 440 FEMINIST THEORIES (CROSS-LISTED AS WMS 300, WMS 400)**

A discussion and assessment of the various theories concerning the place of women in society, including theories that have advocated a more positive role for and valuation of women than those of the dominant society. The course will take both an historical and a topical approach.

**MLS 441 WOMEN ACROSS CULTURES (CROSS-LISTED AS WMS 390, WMS 490)**

A critical analysis of the roles of women in societies around the world, with special emphasis on economics, politics, and culture. Focus is on African, Asian and Latin American cultures and non-dominant groups within Western Societies. Topics vary each quarter.

**MLS 442 ETHICS AND THE ECONOMY (CROSS-LISTED AS GSB 650 & PHL 650)**

This course will present the thinking of social scientists, philosophers and theologians on the impact of religious values on the origin and development of American capitalism, and their possible relevance to contemporary discussions of business ethics.

**MLS 443 WORK, LEISURE AND THE QUALITY OF LIFE (CROSS-LISTED AS SOC 475)**

The course examines the nature and meaning of work and leisure in Western culture, and the relationship of work and leisure to contemporary issues associated with the concept "Quality of Life".

**MLS 444 COMPUTERS, ETHICS AND SOCIETY (CROSS-LISTED AS CSC 326 & REL 326)**

This course examines the impact of computerized technologies on society with particular attention paid to the ethical issues raised by these social effects.

**MLS 445 GENDER AND COMMUNICATION (CROSS-LISTED AS CMN 523 & WMS 440)**

A review of the differences in communication patterns between women and men. Topics covered include language and language usage differences, interaction patterns, and perceptions of the sexes generated through language and communication.

**MLS 446 POWER AND DIFFERENCE****MLS 447 GENDER AND SOCIETY (CROSS-LISTED AS SOC 470 & WMS 460)**

Attention to the growing literature and empirical research on changing patterns in economic, psychological and social outcomes for women and men. Consideration of various theories of gender differentiation and inequality.

**MLS 448 WORK AND LEISURE IN THE FUTURE (CROSS-LISTED AS SOC 476)**

The latter half of the 20th century has seen great change in the meaning, form and value assigned to work and leisure in society. Many of these changes have come to be characterized as inevitable consequences of life in post-industrial society. This course: 1) speaks to identify the factors that are shaping the future of work and leisure and 2) will explore futuristic scenarios that challenge the position of "work as a central-life meaning."

**MLS 449 TOPICS IN NON-FICTION WRITING**

Topics addressed in different versions of the course may include writing for magazines, science writing, travel writing, writing in humanities and social science research, etc. Consult current course schedule for topics.

**MLS 450 CHICAGO:ARCHITECTURE & URBAN DEVELOPMENT (CROSS-LISTED AS ART 339 & AMS 345)**

(Cross-listed as ART 339 & AMS 345) A study of urban architecture in Chicago from 1833 to 1984, including the role of planning, the purpose of open space, the place of tradition, the impact of modern design theories and evaluation of contemporary developments.

**MLS 451 TOPICS IN AMERICAN POLITICS (CROSS-LISTED AS PSC 328)**

**MLS 452 GREAT IDEAS, BUSINESS AND SOCIETY (CROSS-LISTED AS GSB 540)**

A study using primary sources of the basic ideas, aspirations and values which humanity strives to attain and which constitute the basis of fundamental demands on the world of business and its managers, their policies and decisions.

**MLS 453 POLITICS, MEDIA AND EVERYDAY LIFE (CROSS-LISTED AS PSC 321)**

An examination of various ways in which the mass media influence our perceptions of reality. Political, social and cultural implications of media processes are assessed.

**MLS 454 PARABLE AND IMAGINATION (CROSS-LISTED AS ENG 475)**

(Cross-listed as ENG 475) The self's vision derives from narrative imagination. But parables are the genre that makes imagination self-conscious and narrative self-critical.

**MLS 455 COMMUNITY AND THE CITY (CROSS-LISTED AS SOC 423)**

The course explores the possibilities for community life within urban settings. It emphasizes the development of network relations and cross-cutting ties.

**MLS 456 THE USES OF AUTOBIOGRAPHY (CROSS-LISTED AS ENG 409)**

Study of selected autobiographical writings to serve as models for self-expression.

**MLS 457 ENDINGS AND IMAGINATION: LIT OF ANCIENT/ MODERN APOCALYPSE**

**MLS 458 ISLAM AND THE WEST IN THE MODERN WORLD**

An examination of the economic, cultural and political interactions of Europe and the Islamic World.

**MLS 459 WRITING IN THE PROFESSIONS (CROSS-LISTED AS ENG 494 AND MPS 508)**

Improves writing skills useful in semi- and non-technical professions; emphasis on style, tone, awareness of purpose and audience; effective memo, proposal and report design.

**MLS 460 THE DILEMMA OF THE MODERN AGE (CROSS-LISTED AS SOC 473)**

The crisis of the individual's place in society is exposed through social sciences, philosophy, literature, art and music. The distinctive features of and responses to modern culture-individualism, alienation and depersonalization-are illuminated through multiple perspectives.

**MLS 461 MODERN POETRY (CROSS-LISTED AS ENG 466)**

Studies in 20th-century English and American poetry.

**MLS 462 SEMINAR IN BUSINESS ETHICS (CROSS-LISTED AS PHL 640 & GSB 640)**

**MLS 463 NATIONALISM AND INTERNATIONAL CONFLICT (CROSS-LISTED AS PSC 342 & INT 365)**

(Cross-listed as PSC 342 & INT 365) This course will explore the social origins and development of national identities. How these identities have been manipulated to serve specific competitive interests in the past two hundred years will also be discussed.

**MLS 464 THE CULTURE OF AMERICAN CATHOLICS (CROSS-LISTED AS REL 384)**

This course will attempt a sociological and historical investigation of the culture of American Catholics, with special attention to the literary works of contemporary American Catholic writers including Flannery O'Connor, Mary Gordon and Eugene Kennedy.

**MLS 465 MYTHOLOGY AND THE DRAMATIC ARTS (CROSS-LISTED AS ENG 385)**

**MLS 466 LAW, THE STATE, AND FREEDOM IN AMERICA (CROSS-LISTED AS HST 394)**

**MLS 467 SELECTED TOPICS ON WOMEN IN LITERATURE**

Topics vary; see schedule for current offering.

**MLS 468 SELECTED TOPICS: WOMEN, SELF AND SOCIETY (CROSS-LISTED AS WMS 394)**

(Cross-listed as WMS 394) Topics vary; see schedule for current offerings.

**MLS 469 THE GREEK EXPERIENCE (CROSS-LISTED AS HST 405)**

(Cross-listed as HST 405) An overview of the ancient Greek world.

**MLS 470 SCHOLARS & SAMURAI: TRADITIONAL CHINESE AND JAPANESE CIVILIZATIONS**

**MLS 471 THE ARTS OF JAPAN (CROSS-LISTED AS ART 343)**

The visual arts of traditional Japanese culture.

**MLS 472 ISLAMIC ART (CROSS-LISTED AS ART 341)**

The visual arts of traditional Islamic cultures.

**MLS 473 TOPICS IN LITERATURE**

Topics addressed in different versions of the course may include various themes, movements and genres in British, American and World Literature. Consult current course schedule for topic.

**MLS 474 WOMEN AND ART (CROSS-LISTED AS ART 381)**

Examines the work of the most significant women artists from the Renaissance to the present. It will also investigate how women have been represented in Western art by both male and female artists.

**MLS 475 TOPICS IN CONTEMPORARY FILM (CROSS-LISTED AS CMN 348)**

An examination of recent films and their relation to broader tendencies in contemporary culture. Topics vary, see schedule for current offerings.

**MLS 476 CHICAGO IN FICTION AND FILM**

This course examines novels and short stories written by Chicagoans during the 20th century. It also includes a few film adaptations of these works.

**MLS 477 FEMINIST ETHICS (CROSS-LISTED AS WMS 394/410)**

Critiques of mainstream empirical and philosophical works and of Carol Gilligan's work on ethics will include discussions on the women's voice in morality, the nature of theories by women vs. men, the formation of plural positions concerning care versus j

**MLS 478 THE PSYCHOLOGY OF WOMEN (CROSS-LISTED AS PSY 561/WMS 470)**

A review of research and theory on women including sexist biases and methodology, feminist therapy, violence against women, and gender differences in the development of power and sexuality.

**MLS 479 WRITING POETRY (PERMISSION REQUIRED) (CROSS-LISTED AS ENG 493)**

**MLS 480 MAJOR AUTHORS**

An examination of major writers in the English and American literary traditions. Topics vary; see schedule for current offerings.

**MLS 481 SPECIAL TOPICS IN ART HISTORY**

Explorations in the history of art from ancient Egyptians to contemporary art. Topics vary.

**MLS 482 ECOLOGY, SPIRITUALITY AND ETHICS (CROSS-LISTED AS REL 320)**

This course explores the ecological crisis from a religious/ethical perspective, examining the dangers posed for humanity and the planet. It considers the new cosmology developing from science, especially physics, and its dialogue with philosophy, myth and religion.

**MLS 483 CULTURAL PERSPECTIVES ON HEALTH AND DISEASE (CROSS-LISTED WITH REL 320)**

(Cross-listed with REL 320) A multidisciplinary examination of the cultural factor that help form notions of the well and sick states of the human body. Included will be such topics as the social/religious history of epidemics, healing in Western and non-Western medicine, etc. Sources will be drawn from the history of medicine, anthropological and sociological works, philosophy and literature.

**MLS 484 ZEN MIND (CROSS-LISTED AS REL 342)**

This course examines the philosophy, art, literature and religious practice of Zen Buddhism. It explores Zen's influence in both Japan and America.

**MLS 485 INEQUALITY IN AMERICA (CROSS-LISTED AS PSC 324)**

This course examines the nature and extent of inequality in American society and explores various psychological, political, social and economic theories which attempt to explain the existence of this phenomenon.

**MLS 486 TOPICS IN POPULAR CULTURE**

Examines a specific dimension of popular culture using interdisciplinary theories and methods. Possible topics include Food in Film, The Ideology of Romance, or perhaps the popular culture of a decade like the 1950s or 1960s. Topics vary.

**MLS 487 SPECIAL TOPICS IN HISTORY**

Topics vary.

**MLS 488 TOPICIS IN WORLD RELIGIONS**

**MLS 490 SPECIAL TOPICS AND CONTROVERSIES**

Occasional offerings of particular contemporary relevance by visiting professors. Topics vary.

**MLS 497 INDEPENDENT STUDY (NON-THESIS)**

Students who wish to register for independent study in an area that does not lead directly into their Integrating Project/Thesis should register for this course. Students may also register for this course on a topic somewhat related to their Integrating Project/Thesis if they will subsequently take MLS498, in which the student directly prepares to write the Integrating Project/Thesis. The MALS Program requires that students taking independent studies follow a specified format of meeting frequency, activities, and scholarly production. This format is available on the program web site or from the MALS office. Registration is by permission of the instructor and the Director or Assistant Director of the Program.

**MLS 498 INDEPENDENT STUDY (THESIS)**

Independent Study (thesis). Students take this course as a required independent study leading directly to writing the Integrating Project/Thesis. This course is normally required of all students who began the program in the academic year 2000-2001, unless it is waived by permission of the Director. The MALS Program requires that students taking this course follow a specified format of meeting frequency, that they produce a review of literature related to their Integrating Project/Thesis, an annotated bibliography, and a sample introduction or first chapter which will serve as the required Proposal for the Integrating Project/Thesis. Registration is by permission of the instructor and the Director or Assistant Director of the Program.

**MLS 499 INTEGRATING PROJECT/THESIS**

Students may register for this course after the integrating project proposal has been approved. This course carries four hours of credit.

**MLS 500 INTEGRATING PROJECT/THESIS SEMINAR**

Students may register for this course after the integrating project proposal has been approved. This course carries four hours of credit.

**MLS 502 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. Non-credit. \$40.00 per quarter.

**PUBLIC SERVICES**

**MPS 500 INTRODUCTION TO PUBLIC SERVICE MANAGEMENT**

Introduces students to organizational theories and practices useful to public service managers. Teaches how to use structural, human resource, political and symbolic perspectives to rethink public service organizations. Provides an introduction to managerial issues including workforce diversity, decision making and leadership;

stresses critical thinking and writing skills.

**MPS 503 PUBLIC SERVICE ORGANIZATIONS IN THE THREE SECTORS (FORMERLY MPS 512)**

Examination of the size, scope, capacity, and limitations of the nonprofit, government and business sectors in their provision of human services. In addition, print, electronic, and database resources are examined as means of developing meaningful research questions about the interrelationships among the three sectors.

**MPS 504 ETHICS IN ADMINISTRATION (FORMERLY MPS 594)**

Examines ethical dimensions of issues faced by administrators in public service organizations. Two credit hours

**MPS 505 HOW NON-PROFITS WORK**

Students will learn to master the tasks involved and the skills necessary for creating, managing and growing a not-for-profit organization. Each student will be expected to create a plan for starting a nonprofit organization.

**MPS 507 SCHOLARLY WRITING**

This course focuses in the requirements needed to become a successful writer. In particular, it emphasizes understanding the nature of the academic discourse, accessing important and scholarly works, synthesizing different positions within a body of knowledge and understanding the construction and development of an argument. Two credit hours

**MPS 508 WRITING IN THE PROFESSIONS (CROSS-LISTED AS ENG 494)**

Improves writing skills useful in semi- and nontechnical professions; emphasis on style, tone, awareness of purpose and audience. Cross-listed with ENG 494.

**MPS 510 INTERNATIONAL DIMENSIONS OF PUBLIC SERVICE**

(Formerly MPS 539) Seminar on the organization and delivery of public services outside the United States. Topics include a comparative analysis of the service sector in other nations, the role and impact of international service agencies, and international involvements of US. foundations and nonprofit agencies. Features case studies and guest speakers.

**MPS 511 SUSTAINBLE DEVELOPMNT AND NON-GOVERNMENTAL ORGANIZATIONS**

This course examines available research on the results of aid programs to third world countries and the implications of these findings for models of development. It considers the role assumed by first world countries, international organizations such as the European Union or the International Monetary Fund, and non-profit organizations in third world developemnt. Finally, it includes a critical assessment of the funding and policy decisions made by these actors and the effects they have on the global distribution of resources and the status of global equity and justice.

**MPS 513 VOLUNTARISM IN AMERICAN SOCIETY (FORMERLY MPS 588)**

Analysis of volunteerism in American society, including its historical development, contemporary trends, social significance and organizational implications.

**MPS 514 GOVERNMENT FINANCIAL ADMINISTRATION [PREREQ(S): MPS 500]**

This course introduces students to the basic tools used to evaluate the financial performance of governmental organizations. Students will learn about the basic financial reports generated by governments and will undertake a comprehensive analysis of financial performance of a government based upon its financial reports.

PREREQUISITE: MPS 500

**MPS 515 NONPROFIT FINANCIAL ADMINISTRATION**

This course introduces students to the basic tools of financial administration: budgeting, capital budgeting, cash flow analysis, variance analysis, and portfolio management. Students will also learn how to read and use financial statements to identify financial problems.

**MPS 516 MANAGEMENT OF INFORMATION TECHNOLOGY (PREREQ: 500 AND 515 OR 541)**

This course focuses on the management and use of information technology (IT). As the use of IT in society grows, particularly in business, graduates are likely to manage technology resources and participate in IT planning and development projects as founders, sponsors, team members, managers of development, or end-user developers. Students should become effective users of information, IT, and information services. The course explores a number of IT-related topics, such as the strategic role of IT, IT planning and architecture, building the telecommunications highway system, management issues on system development, the expanding universe of computing, group support systems, intelligent systems, electronic document management and managing the human side of systems. PREREQUISITE(S):MPS 500 and MPS 515 or MPS 541, and consent of instructor

**MPS 517 SPECIAL EVENTS PLANNING**

(Formerly 591) Student will identify desired outcomes of events and the relationship of these outcomes to an organization's mission and fundraising initiatives. Effective event planning practices will be examined. Two credit hours

**MPS 518 PROPOSAL WRITING (FORMERLY MPS 586)**

(Formerly MPS 586) (2 quarter hours) Grant writing is a fundamental component of most nonprofits' fundraising strategy. This course provides practical guidance on how to plan and structure effective proposals for external funding, research funding courses, and follow-up with potential donors.

**MPS 519 FUNDRAISING AND DEVELOPMENT FOR NON-PROFIT ORGANIZATIONS**

(Formerly MPS 589) (2 quarter hours) All nonprofits need resources to carry out their mission. This class explains how to construct an appropriate, manageable fundraising plan to assist an agency in achieving its goals. Techniques for implementing annual giving, capital campaigns and special appeals are reviewed, including consideration of who among nonprofit stakeholders should be involved in the process.

**MPS 521 LEADERSHIP AND MANAGEMENT (PREREQUISITE: MPS 500)**

This course focuses on key factors which affect employee behavior and the nature and purposes of leader and managerial roles. In addition, it addresses recent research in leadership and management and the legal environment of personnel management. In depth analysis of psychological systems, interpersonal relations and the relationship of rewards to performance are addressed through case studies, role playing and readings. PREREQUISITE(S):MPS 500.

**MPS 522 FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT (PREREQUISITE: MPS 500)**

This course explores human resource issues facing employees with supervisory responsibilities in public service organizations, including those working in the volunteer, non-profit, religious, government, and education sectors. The course considers human resource planning, employee recruiting and selection, and the

motivation and evaluation of staff personnel and managers both individually and in teams. Topics include recruiting and selecting employees and managers, fostering team development, managing employee stress, preventing workplace violence, and handling issues pertaining to termination, training, and development. The course also explores progressive discipline, improving performance management of employees and volunteers, and supervising "difficult" people. PREREQUISITE(S): MPS 500

**MPS 524 MARKETING FOR SERVICE ORGANIZATIONS**

Explores the objectives, strategies, techniques and constraints of government and non-profit services. 4 quarter hours.

**MPS 525 WORKING WITH AN EXTERNAL BOARD**

This course examines the legal and philosophical reasons that nonprofit organizations are governed by an external board of directors. Membership, structure and process for this body are examined, as well as the relationship of employees to the individual board members and the policies established by this group.

**MPS 526 LOCAL GOVERNMENT ADMINISTRATION**

Analyzes decision-making processes used in local units of government from the perspective of the chief executive officer (e.g., city manager, township supervisor, special district administrator and park superintendent); covers daily operational aspects of municipal administration including the impact of intergovernmental relations on local government, the role of the local government professional administrator in policy implementation and regional governance of the delivery of services that cross political boundaries. The interaction of the chief executive officer, elected board members and the community will be discussed.

**MPS 527 ASSOCIATION MANAGEMENT (FORMERLY MPS 549)**

Examines membership associations as a special type of public service organization, with emphasis on managing both the external policy roles of associations and internal roles related to directly serving constituent members and organizations.

**MPS 528 FOUNDATION MANAGEMENT (FORMERLY MPS 548)**

Examines private and corporate foundations as a special type of public service organization. Emphasizes managing mission and resources for the public good.

**MPS 529 STRATEGIC PLANNING**

Students will learn how to apply strategic planning concepts and tools to public and non-profit organizations to help achieve "corporate" goals and objectives in meeting service delivery missions. The course focuses on analyzing the dynamic interaction of trends, market forces, stakeholders, and core competencies in developing a vision with strategies to handle organizational alternative scenarios. Examples are taken from government, social service agencies, park districts, suburban municipalities, health care organizations, and metropolitan development groups.

**MPS 531 FINANCING AND COSTING IN HEALTH CARE**

This course examines the major sources of financing as well as the major methods of measuring costs for inpatient, outpatient and long-term health care. It examines Medicare and Medicaid payment principles in detail and introduces cost accounting as applied to health care.

**MPS 534 MEDICAL SOCIOLOGY (FORMERLY MPS 547) (CROSS-LISTED AS SOC 431)**

Overview of social systems of health care in the United States, including the health-seeking behavior of patients, relationships among health care providers and

organizational settings in which services are delivered. Cross-listed with SOC 431.

**MPS 535 ISSUES IN HEALTH CARE**

(Formerly MPS 560) Analyzes who promotes, provides, consumes, and pays for health care in the United States. Special attention is given to the relationships between governments, health care institutions, and community-based organizations.

**MPS 537 HEALTH CARE DELIVERY SYSTEMS (CROSS-LISTED AS SOC 437)**

Overview of the structure of the U.S. health systems followed by a selective international comparison of other health delivery systems including their relationships to social policies and economic factors. 4 quarter hours. Cross-listed with SOC 437.

**MPS 540 POLICY IMPLEMENTATION IN A BUREAUCRATIC AND POLITICAL CONTEXT**

This course discusses reasons why well-intended government programs or policies so often go astray. It emphasizes how policies change when managers and analysts try to implement them in a bureaucratic or political environment.

**MPS 541 ECONOMIC FOUNDATIONS OF PUBLIC SERVICE (FORMERLY MPS 533)**

Introduces students to financial and microeconomic issues affecting the governmental and nonprofit sectors. Explores principles of public finance. Specific applications to local government and nonprofit organizations are considered.

**MPS 542 POLICY DESIGN AND ANALYSIS (PREREQUISITE: MPS 515 OR 541)**

Focuses on processes and techniques of analyzing and designing public policies. Students are introduced to an analytical way of thinking that includes: defining and modeling policy problems; designing policy alternatives; evaluating policy alternatives using ethical, legal, economic, organizational, and political criteria; and anticipating problems of policy implementation. PREREQUISITE(S):MPS 541 or MPS 515

**MPS 544 LAW ENFORCEMENT POLICY ISSUES (CROSS-LISTED AS SOC 446)**

Theory, application, and impact of law enforcement policies on police, corrections and the courts. Cross-listed with SOC 446.

**MPS 546 ADVOCACY AND PUBLIC POLICY**

Explores the roles of individuals and organizations in the public policy process, particularly as power arrangements facilitate or impede consensus building. Examines how legislation is written and how administrative rules are formed in government agencies. Special attention is paid to advocacy techniques such as lobbying, public education, and litigation. PREREQUISITE[S] : MPS 542

**MPS 550 APPLICATIONS IN PUBLIC POLICY ANALYSIS**

This course employs analytical techniques to explore policy problems faced by nonprofit organizations as well as federal, state and local units of government. It considers practical methods to use economic and public policy tools to address contemporary societal and governmental issues. Two credit hours PREREQUISITE(S):MPS 541 and MPS 542 or consent of instructor.

**MPS 553 MANAGEMENT CONTROL IN NONPROFITS & GOVERNMENT (FORMERLY MPS 509) [PREREQ(S): MPS 514 OR MPS 515]**

This course combines the basic tools of finance covered in 513 and 514 with more advanced techniques and applies them through case studies to monitoring organizational performance and exerting control in both the short- and long-run. Prerequisite(s): MPS 514 or MPS 515 .

**MPS 555 ALTERNATIVES TO TRADITIONAL PUBLIC POLICY ANALYSIS**

Most public policy programs focus on the economic approach to policy analysis, but that approach has been receiving increasingly critical attention. The course will review the critiques of the economic approach, including ethical and civic issues. It also introduces students to alternative approaches, such as policy analysis as argumentation and critical policy analysis. Students will consider the effects that these different approaches may have on issues of social justice and equity as embodied in public policy decisions.

**MPS 559 ENTREPRENEURSHIP AND NEW VENTURE MANAGEMENT (CRS # INACTIVE 9/1/1999)**

Entrepreneurship And New Venture Management (crs # Inactive 9/1/1999)

**MPS 561 LAW AND NONPROFIT ORGANIZATIONS (FORMERLY MPS 532)**

Introduces laws and regulations governing nonprofit organizations, including procedures for incorporation, maintenance of tax-exempt status, and compliance with relevant labor laws. No legal background is assumed.

**MPS 562 INTRODUCTION TO HEALTH LAW (FORMERLY MPS 570)**

Introduces students from nonlegal backgrounds to the legal system. Examines legal materials, including statutes, judicial opinion, and administrative regulations. Basic legal research and writing skills are taught.

**MPS 563 LAW AND PUBLIC POLICY**

Examines how legislation and administrative procedures direct and constrain the exercise of administrative discretion by public officials, while ensuring accountability and fair treatment of the public. Discusses judicial review of administrative acts through the use of cases and other materials. Covers liability and authority of officials and how these affect citizens' rights and compliance with federal and state mandates.

**MPS 569 ADVANCED SOCIAL PSYCHOLOGY**

(Cross-listed with Psychology 430) Advanced study of social psychological methodology, ethics and deception, attitudes, altruism, aggression and interpersonal processes and attraction.

**MPS 570 RESEARCH METHODS IN PUBLIC SERVICE [FORMERLY MPS 582] (PRERQ:MPS 503)**

This course develops the skills necessary for conducting surveys, interviews, focus groups, and archival data analysis. Focus is placed on quasi-experimental designs. Sampling strategies and data preparation in SPSS format are also included as preparation for MPS 580 and the student's capstone project. PREREQUISITE: MPS 503

**MPS 571 METROPOLITAN PLANNING**

Analyzes issues, decision-making processes, and resources that affect planning across a metropolitan area, including urban-suburban relations and the complexities of zoning and community development.

**MPS 572 URBAN POVERTY SEMINAR**

(Formerly MPS 554) Readings, case studies, and student projects which explore the causes and conditions of urban poverty, together with a selective analysis of how public policy and service agencies address human need.

**MPS 573 URBAN AND COMMUNITY ANALYSIS (CROSS-LISTED AS SOC 422)**

Discussion of urban issues, including social area analysis, neighborhood change, land use, and other selected topics. Cross-listed with SOC 422.

**MPS 574 COMMUNITY ORGANIZATIONS AND URBAN DEVELOPMENT (CROSS-LISTED AS SOC 426)**

(Formerly MPS 545) Examines community organizations as problem-solving bodies that interact with government agencies in affecting urban development and the formation of urban public policy. Cross-listed with SOC 426.

**MPS 580 QUANTITATIVE METHODS IN PUBLIC SERVICES (PREREQUISITES: M MPS 570 OR MPS 582)**

Prepares students to use and produce quantitative analyses for policy studies and administrative decision making; focuses on descriptive and beginning-level inferential statistics; introduces students to statistical software. PREREQUISITE(S): MPS 570 or MPS 582.

**MPS 581 ADVANCED QUANTITATIVE METHODS (PREREQUISITE: INSTRUCTOR PERMISSION)**

Explores statistical tools for public service research, including the binomial distribution, multiple regression analysis, and non-parametric tests. Involves use of statistical software. PREREQUISITE(S): Permission of instructor

**MPS 585 PRACTICUM/THESIS DESIGN (PREREQUISITE: CORE COURSES & CONSENT OF DIRECTOR)**

(2 credit hours) Prepares students to undertake a capstone project. Students will be introduced to a variety of data sets and invited to explore issues in which they are interested by reviewing the relevant literature and applying the analytical tools acquired during their coursework to these data. Students with a grade point average of 3.5 or higher will have the option of collecting their own data. Students electing this option are required to find a faculty advisor with the approval of the Director. PREREQUISITE(S): Completion of core courses; Consent of program director or instructor.

**MPS 590 APPLIED RESEARCH: NEEDS ASSESSMENT [FORMERLY MPS 557] [PREREQ: MPS 570]**

Explains the purpose of needs assessments and the various methods used to assess levels of need as these are focused on shaping social policy or designing management systems. Areas covered include discrepancy, marketing, and social indicator analysis. PREREQUISITE: MPS 570

**MPS 591 APPLIED RESEARCH: PROGRAM EVALUATION [FORMERLY MPS 557] [PREREQ: MPS 570]**

Explores the various methods utilized in evaluating program results. Outcome assessment is discussed as this research strategy can be applied in assessing the impact of policy or management change. PREREQUISITE: MPS 570.

**MPS 592 APPLIED RESEARCH: ORGANIZATIONAL EFFECTIVENESS [FORMERLY MPS 523] (PREREQ: MPS 570)**

Profiles the various methodologies, which are useful in evaluating the effectiveness of organizations in implementing policies and programs. The emphasis is on the development of process measures. PREREQUISITE: MPS 570

**MPS 593 INTEGRATIVE SEMINAR [ PREREQ (S): MPS 580 & MPS 590 OR 591 OR 592 & 40 CREDIT HOURS]**

This capstone course provides the opportunity for students to complete a demonstration project integrating applied research, theoretical frameworks, and professional practice. It allows students some flexibility, drawing from one of the applied research competencies in either a policy or management area of focus.

PREREQUISITE(S): MPS 580 and 590 or 591 or 592 and 40 CREDIT HOURS

**MPS 595 PRACTICUM (PREREQUISITE(S): MPS 585)**

Students carry out practicum projects designed in MPS 585. The final product of this course is a substantial analytical report. Binding fee PREREQUISITE(S): MPS 585

**MPS 596 PRACTICUM IN ADMINISTRATION AND POLICY ANALYSIS II (PREREQUISITE: MPS 595)**

Continuation course for students whose practicum projects extend significantly beyond what they can finish in MPS 595. PREREQUISITE(S):MPS 595 and consent of instructor.

**MPS 598 THESIS RESEARCH I (PREREQUISITES: MPS 585 AND CONSENT)**

Students carry out a theoretically-based research project designed in MPS 585. The final product of this course is a master's thesis. Binding fee PREREQUISITE(S):MPS 585 and consent of program director and instructor.

**MPS 599 THESIS RESEARCH II (PREREQUISITE: MPS 598 AND CONSENT)**

Continuation course for students whose research projects extend significantly beyond what they can finish in MPS 598. PREREQUISITE(S):MPS 598 and consent of program director and instructor.

**MPS 600 INDEPENDENT STUDY (PREREQUISITE: CONSENT OF DIRECTOR)**

Individually supervised learning experience, usually involving extensive library research and writing. Variable credit. PREREQUISITE(S):consent of program director and instructor.

**MPS 601 INTERNSHIP (PREREQUISITE: CONSENT OF DIRECTOR)**

Variable credit. Supervised work experience during one or more quarters, usually involving application of administrative skills in an organizational setting new to the student. Variable credit. PREREQUISITE(S):consent of program director or internship supervisor.

**MPS 602 CANDIDACY CONTINUATION (FEE: \$40.00)**

(0 credit) Required of students who are not registered for regular courses during an academic quarter while completing course requirements or research. \$40.00 per quarter.

**MPS 603 TEAM PROJECT (PREREQUISITE: CONSENT OF DIRECTOR)**

Variable credit. In a supervised group project, advanced students undertake either a team consultation with a public service organization or a collaborative research project. Field work may be required. Enrollment is limited by the nature of each project; projects vary and are posted in advance of registration. Does not substitute for MPS 595 or MPS 598. May not be used for internship or independent study credit. Variable credit. \$40.00 per quarter. PREREQUISITE(S):consent of program director and instructor

**MPS 604 SPECIAL TOPICS**

Topics vary each term. (May be taken more than once). Variable credit.

**MPS 605 SEMINAR IN ADMINISTRATION**

In-depth examination of selected issues in public service administration. Topics vary each term. May be taken more than once.

**MPS 606 SEMINAR IN HIGHER EDUCATION ADMINISTRATION**

In-depth examination of selected issues in higher education administration. Topics vary each term. May be taken more than once.

**MPS 610 INTERNATIONAL INTERNSHIP**

Supervised work experience in an organization abroad during one or more terms, usually involving application of administrative skills in an organizational setting new to the student.[Prerequisite(s): Permission of Director & Internship Director]

**MPS 616 INTERNATIONAL RELATIONS AND CONFLICT MANAGEMENT**

This course offers reflective practices and concrete directions for creating constructive solutions to interpersonal, inter-group, and international conflict. The course is a valuable opportunity to students interested to learn about interpersonal, intercultural and intergovernmental conflict prevention, management and resolution. The large field of international relations is explored through the role of governmental and non-governmental approaches to conflict management. The course focuses on theoretical foundations and practical implications connected to the use of diplomacy, negotiation, mediation, peacekeeping, peacemaking and peace-building to solve and prevent international conflicts. The purpose of the course is to analyze contextual and management variables correlated to the success or failure of conciliatory missions and preventive efforts. The escalation of global terrorism, the proliferation of weapons of mass-destruction, and various post-WWII conflicts will be used as case studies to explore the role of international organizations, multilateral coalitions, and international dialogue to deescalate violence, enhance security and promote peace. The course includes presentations from experts in the local and international arena of conflict management.

**MPS 650 ISSUES IN APPLIED RESEARCH**

Investigates rural communities through a variety of research approaches that reveal their culture patterns, power arrangements, economic structures, and social institutions. Both quantitative (social area analysis) and qualitative (participant observation) techniques are explored as means of gathering information about needs and resources.

**MPS 651 INTRODUCTION TO POLICY STUDIES**

Analyzes social policy frameworks, including organizational, political, economic, and legal-ethical constraints as these can be effectively addressed in solving community problems. The defining and modeling of policy problems, designing policy alternatives, and projecting implementation issues as tests of feasibility and practicality are the essential areas to be covered in formulating policy.

**MPS 652 THE THREE SECTORS: GOVERNMENT, BUSINESS, AND NON-PROFIT ORGANIZATIONS.**

Introduces the size, scope, capacity, and limitations of the for-profit, government, and nonprofit sectors in their provision of public services. Topics including the market, competition, and market failure, tax exemption, public goods, and voluntarism are explored thoroughly.

**MPS 653 LEADERSHIP AND GROUP DYNAMICS**

Explores the relevant theories and methods for understanding the structures and processes in groups. Leadership, power, status, decision-making, communication, and

problem-solving are analyzed with a special focus on negotiation and coalition building.

**MPS 654 INTERGROUP RELATIONS**

Theoretical perspectives on race, ethnicity, gender and other sources of discrimination within and between social groups. Inequalities in access to power, wealth, and prestige are examined in depth, with an emphasis on methods for identifying and altering the dynamics of prejudice

**MPS 655 LEGAL ISSUES IN PUBLIC POLICY**

Reviews the powers and processes within federal, state, and local administrative bodies as they affect private parties, including jurisdiction, discretion, rule making, adjudication, and judicial review. Constitutional issues related to individual liberties, due process of law, freedom of expression and freedom of religion are also explored.

**MPS 656 MICRO-ECONOMICS**

Examines the micro-economic constructs of rational self interest, supply and demand, competition, and markets. Welfare economics, the role of the firm, and the efficiency of government regulations are also analyzed.

**MPS 657 ISSUES IN POLITICAL FEASIBILITY ANALYSIS**

Emphasizes identification of relevant elected officials, non-elected officials, and interest groups; their positions and political resources; Policy variables and areas of negotiation and compromise; and strategies for affecting policy formulation and adoption

**MPS 658 POLICY RESEARCH**

Reviews the classical economic approach to policy analysis through formal critiques of this approach, including ethical and civic issues. Alternative approaches, such as policy as argumentation and critical policy analysis, focus on issues of social justice and equity, posing a challenge to conventional perspectives on policy.

## **MUSICIANSHIP**

**MUS 400 MUSIC RESEARCH I**

(2 credits) Introduction to research types and techniques; bibliography and bibliographical sources; elementary statistics; the development of writing skills; analysis of research examples.

**MUS 401 MUSIC RESEARCH II**

(2 credits) Research in specific areas of interest, culminating in the writing of a major paper. PREREQUISITE(S): MUS 400.

**MUS 420 HISTORY OF THE ORATORIO**

An analytical and historical study of oratorio literature from 1600 to the present.

**MUS 428 HISTORY OF MUSIC I**

(4 credits) A chronological survey of music in Western civilization from the Middle Ages to the present, with an emphasis on musical style and compositional procedures.

**MUS 429 HISTORY OF MUSIC II**

(4 credits) A chronological survey of music in Western civilization from the Middle Ages to the present, with an emphasis on musical style and compositional procedures.

PREREQUISTE(S): MUS 429.

**MUS 430 HISTORY OF MUSIC III**

(4 credits) A chronological survey of music in Western civilization from the Middle Ages to the present, with an emphasis on musical style and compositional procedures.

PREREQUISTE(S): MUS 429.

**MUS 435 WIND HISTORY AND LITERATURE**

There is a consistent historical connection between wind music of the ancient and medieval periods, and the music of today. This course will trace that historical line, discussing the development of the repertoire as well as the functions and uses of wind music. It is the intention of this class to address the needs of people who will be performing, conducting, or teaching "classical" music as a career. Emphasis will be placed on original music suitable for professional concert performance.

**MUS 475 MEDIEVAL MUSIC**

Historical survey of music from the Middle Ages: sacred and secular music as artistic, theoretical, and intellectual expression of the Middle Ages; history of musical styles to 1420; performance practice issues

**MUS 478 RENAISSANCE MUSIC**

Historical survey of music from the Renaissance. Musical style, compositional procedures, and performance practice are studied, within the social, political and economic environment in which the composers worked.

**MUS 479 BAROQUE MUSIC**

Historical survey of Baroque music and performance practice. Representative examples of both vocal and instrumental music are studied, mostly using the analytical techniques of the period, with the aim of becoming familiar with the most significant manners of composition of Baroque composers.

**MUS 481 HISTORY OF OPERA**

The course surveys the history of opera in western culture from its beginnings in the 17th century through the 20th century. The class materials cover stylistic trends and genres as demonstrated through seminal works. Each class period will contain a relevant analytical study.

**MUS 482 WORLD MUSIC CULTURES**

This graduate course will provide a global musical perspective and widen the lens through which students experience music. Through lectures, listening, guest performances, and engaging discussion students will gain rich insights into new worlds of music.

**MUS 484 CLASSICAL MUSIC**

Traces the development of musical style during the Classical Era through the analytical study of examples in the main musical forms such as sonata form. Reception and performance practice then and now will be addressed.

**MUS 485 ROMANTIC MUSIC**

Survey of nineteenth century music through a close analysis of representative Romantic works. The course will cover the expansion of both harmonic language and form leading to their eventual breakdown and reinterpretation.

**MUS 486 MUSIC SINCE WORLD WAR II**

This course surveys Western art music and related theoretical and technical issues from near the end of World War II to the present focusing on the development of new musical languages, new instruments and new methods of analysis.

**MUS 487 20TH CENTURY MUSIC BEFORE WWII**

This course surveys Western art music and related theoretical and technical issues from near the end of the 19th century to World War II, focusing on the new musical languages and aesthetics developed from 1890 until 1940.

**MUS 498 INDEPENDENT STUDY****MUS 500 CANDIDACY CONTINUATION**

A course for continuing graduate students who have not completed research, course requirements, or comprehensive examinations, but wish to retain their student status. "Candidacy Continuation" will enable students to use the University facilities during the quarter they register. The registration will be for 0 credit, although a \$40 fee will be charged per quarter.

**WRITING****MWR 497 WRITING THE LITERATURE OF FACT****MWR 498 INDEPENDENT STUDY (PREREQUISITE: WRITTEN PERMISSION)****MWR 499 THESIS RESEARCH (PREREQUISITE: WRITTEN PERMISSION)****MWR 500 INDEPENDENT STUDY (PREREQUISITE: WRITTEN PERMISSION)****MWR 501 THESIS RESEARCH (PREREQUISITE: WRITTEN PERMISSION)****MWR 502 CANDIDACY CONTINUATION****NEW MEDIA STUDIES****NMS 501 PROSEMINAR IN NEW MEDIA STUDIES**

Introduces the field of New Media Studies and the faculty who teach in it. Each week a different NMS faculty member will present his or her research and relate that topic to the wider field of NMS. Encourages students to clarify their course of study and build alliances with faculty and students with similar interests.

## **NURSING**

### **NSG 400 THEORETICAL COMPONENTS OF NURSING**

In this seminar, participants examine the nature, function and development of selected concepts, models and theories for their relevance to advanced nursing practice and nursing research. The structure of theory is analyzed according to the relationship between its components and the type of theoretical statements used. A process for developing a conceptual framework for inquiry and data-based nursing practice is presented. PREREQUISITE: Graduate Standing.

### **NSG 401 NURSING RESEARCH I (PREREQUISITE: NSG 400 & 480 OR EQUIVALENT)**

A seminar course emphasizing the concepts of the research process through presentation, discussion, and analysis of various research approaches, methodologies, designs, and instrumentation. Critique of published nursing research will enable the students to use concepts presented to evaluate current studies. PREREQUISITES: NSG 400 & 480 or equivalent

### **NSG 402 NURSING RESEARCH II**

The development of a specific research proposal for the graduate synthesis project or thesis is developed. Emphasis is on protection of human subjects and methods for research utilization, evidenced-based evaluation of clinical practice, and theory-based nursing research. PREREQUISITE(S): NSG 401

### **NSG 403 THEORETICAL BASIS FOR ADVANCED NURSING PRACTICE: SEMINAR AND PRACTICUM**

The research colloquium focuses on the use of theory-based nursing interventions in practice. Students select a unique focus for their practicum in collaboration with a faculty advisor that allows them to test frameworks, models and theories in nursing and related disciplines. The course may be repeated. Six quarter hours. This course consists of a research colloquium (2 hours) and a practicum (4 hours). PREREQUISITE(S): Nursing 400 or equivalent.

### **NSG 406 EXTENDED RESEARCH (COURSE FEE)**

Non-credit. This course will be required for students who do not complete their thesis during the quarter after all other course work is completed. Fee will be \$40.00 per quarter.

### **NSG 407 MULTICULTURALISM IN HEALTH AND HUMAN SERVICES (CROSS-LISTED AS NSG 370)**

This course is designed to promote the learner's cultural sensitivity by broadening the knowledge base about transcultural issues in health care and developing multicultural communication skills. Implications of age, race, gender, ethnicity, subculture and social class in health care will be explored. Students perform cultural assessment and examine health care practices in a culture different from their own. A service learning component is required.

### **NSG 408 HEALTH POLICY ISSUES RELATED TO NURSING CASE MANAGEMENT**

**NSG 410 ADVANCED STATISTICS**

**NSG 418 ADVANCED NURSE ANESTHESIA PRACTICE SYMPOSIUM**

This symposium provides opportunity to explore current and predicted issues affecting advanced nursing practice in nurse anesthesia. Special topics such as quality improvement, management strategies, and cost containment will be addressed by expert guest faculty. Course projects are designed to facilitate of new professional practice models for advanced nurse anesthesia practice.

**NSG 421 EVALUATION IN ALLIED HEALTH EDUCATION AND SERVICE**

**NSG 422 APPLIED PHYSIOLOGY**

(Formerly NSG 525) A synthesis of organic & inorganic chemistry, molecular biology, and cellular physiology that serves as a foundation for advanced understanding of pathophysiology and pharmacology. PREREQUISITE: Organic and Inorganic Chemistry

**NSG 424 ADVANCED PHYSIOLOGY & PATHOPHYSIOLOGY**

Survey of current advances on human physiology with emphasis on the cellular and microcellular basis of health and disease. Students will engage in intensive study of human anatomy and physiology and complex pathophysiologic processes. Current research findings are reviewed for implications for health promotion, health maintenance and health restoration. PREREQUISITE(S): NSG 422 or equivalent. May be taken concurrently with NSG 484

**NSG 425 FISCAL MANAGEMENT IN HEALTH CARE**

Fiscal management and budgetary practices in health care institutions are explored. Budget preparation, cost-benefit, analysis, product costing, reimbursement, and analysis of financial status in organizations is emphasized.

**NSG 430 POLITICAL AND LEGAL ISSUES IN HEALTH CARE**

Seminars will discuss social, economic, legislative and regulatory mechanisms that influence professional practice and health policy in the United States. Emphasis is on the legal definition of professional practice as well as major issues involved in designing, implementing and evaluating policy decisions including scope, dynamics, and conceptual and practical dilemmas.

**NSG 432 THEORIES OF HEALTH BEHAVIORS ACROSS THE LIFE SPAN**

Analyzes selected theories that predict decision-making in health care issues. Concepts and theories related to prevention and optimal health care as well as social, cultural and economic aspects of wellness and illness are explored.

**NSG 433 NURSING AND BIOMEDICAL ETHICS IN HEALTH CARE**

Seminars and case studies are used to explore issues and frameworks for ethical practice and research in the health professions.

**NSG 448 INDEPENDENT STUDY**

This course is reserved for individuals who wish to do focused study at the graduate level.

**NSG 450 SELECTED TOPICS IN NURSING (CROSS-LISTED AS NSG 347)**

This course is reserved for special seminars organized from time to time to accommodate the needs of groups interested in specific topics.

**NSG 451 INTRODUCTION TO NURSING ADMINISTRATION AND LEADERSHIP**

This course is an introduction to the nursing leadership concentration as well as an overview of current issues and theory of nursing administration for all advanced practice nurses. As an introduction to the nursing leadership concentration, this course places emphasis on developing master's level skills of critical reading, scholarly writing, analytical discussion, and shared leadership. May also be taken as a health sciences management elective. The expected outcome of the course is a nursing research question and literature review that will form the basis of the students work in their concentration and the final research project.

**NSG 452 ORGANIZATIONAL AND FINANCIAL MANAGEMENT IN HEALTH CARE (CROSS-LISTED AS NSG 521)**

This course provides insight and reflection on the executive role in advanced practice and organizational administration. Concepts, models, and techniques used to manage systems in a variety of health care organizations or practices are analyzed. Organizational assessment, resource development, and product costing are emphasized. This course provides insight and reflection on the executive role in advanced practice and organizational administration. Concepts, models, and techniques used to manage systems in a variety of health care organizations or practices are analyzed. Organizational assessment, resource development, and product costing are emphasized.

**NSG 453 CASE MANAGEMENT AND THE MANAGED CARE ENVIRONMENT**

In this course, students engage in analysis of concepts central to an in-depth understanding of the managed care environment and case management as a clinical care system. Emphasis is upon development of skill in organizational and population-based assessment and data analysis, clinical pathway development, and interdisciplinary collaboration. Students develop a data-base for a clinical project focusing on a client population from their work environment.

**NSG 454 INNOVATIONS IN HEALTH CARE DELIVERY**

This course provides the instruction and clinical experience for the development of the advanced practice nurse role as case manager and administrator. Learning activities focus on implementing contemporary data-based nursing practice models in a variety of health care settings, and the diffusion of innovation at the individual, family and organizational levels. PREREQUISITE(S): NSG 453.

**NSG 455 CURRICULUM DEVELOPMENT FOR HEALTH CARE SYSTEMS**

Theories, principles and approaches to curriculum development are explored. Basic elements of curricular design are examined in relation to traditional and evolving paradigms, reflecting development in social and professional dimensions of health care.

**NSG 456 PRACTICUM IN NURSING ADMINISTRATION I (PREREQUISITES: NSG 451 AND 452)**

**NSG 457 PRACTICUM IN NURSING ADMINISTRATION II (PREREQUISITES: NSG 451, 452 AND 456)**

**NSG 458 TEACHING IN HEALTH CARE SYSTEMS (FACULTY PERMISSION REQUIRED)**

This course prepares the registered nurse to apply theories, principles and strategies in education. Emphasis is on education as a vehicle for enhancing the health of populations and systems from an ecological perspective.

**NSG 459 PRACTICUM IN TEACHING IN HEALTH CARE SYSTEMS (PREREQUISITES: 455 AND 458)**

**NSG 460 ADVANCED HEALTH ASSESSMENT ACROSS THE LIFESPAN**

Lecture focus on the synthesis of scientific knowledge in performing integrated, comprehensive assessments of individuals from infancy through maturity. Emphasis is placed on the child in the context of the family and community. Laboratory practice includes taking the health history and performing the physical examination to evaluate primary health care needs. PREREQUISITE(S): NSG 422 and 424 or concurrent. (Laboratory fee required)

**NSG 461 ADVANCED PEDIATRIC HEALTH ASSESSMENT**

Lectures focus on the synthesis of scientific knowledge in performing integrated, comprehensive assessments of children from infancy through early adolescence. Emphasis is placed on the child in the context of the family and community in health and illness. Laboratory practice included taking the health history and performing physical examinations to evaluate primary and clinical care needs. PREREQUISITE(S): NSG 422 and 424 or concurrent. (Laboratory fee required)

**NSG 462 ADVANCED WOMEN'S HEALTH ASSESSMENT**

Lectures focus on the synthesis of scientific knowledge in performing integrated, comprehensive assessments of women from late adolescence through maturity. Emphasis is placed on the woman in the context of the family and community in health and illness. Laboratory practice includes taking the health history and performing the physical examination to evaluate primary and reproductive health care needs. PREREQUISITE(S): NSG 422 and 424 or concurrent. (Laboratory fee required)

**NSG 470 PERSPECTIVES ON COLLABORATION**

A seminar course designed to explore the evolving nature and practice of collaboration in nursing and related disciplines. The interrelationship of science, status, and service is emphasized.

**NSG 471 CONTEMPORARY HEALTH CARE ISSUES**

Seminar course that explores current issues using ethical, legal and political foci to analyze these issues and relevant research as related to nursing and health care.

**NSG 472 PRACTICUM IN ADVANCED HEALTH ASSESSMENT**

The art of nursing is practiced within the clinical environment with a focus on the roles of health care provider and coordinator in medical-surgical nursing. Analysis and application of current research in the epidemiology of health and disease is used as the basis for decision-making in performing the nursing assessment, contributing to interdisciplinary treatment planning, and facilitating health promotion and illness prevention. The integrated role of the professional nurse in providing holistic care is emphasized.

**NSG 474 PRIMARY CARE ACROSS THE LIFESPAN**

Lectures focus on synthesis and application of scientific knowledge for family advanced practice nursing in primary care. The integrated role of the advanced practice nurse in providing holistic care and collaborative practice is emphasized.

**NSG 475 CLINICAL MANAGEMENT OF PREGNANCY AND CHILDBEARING**

Lectures focus on synthesis and application of scientific knowledge for obstetrical advanced practice nursing. The integrated role of the advanced practice nurse in providing holistic care and collaborative practice is emphasized. PREREQUISITES: NSG 460 or 462.

**NSG 476 CLINICAL MANAGEMENT OF PEDIATRIC HEALTH AND ILLNESS  
(PREREQ: NSG 461 OR BY PERMISSION OF INSTRUCTOR)**

Lectures focus on synthesis and application of scientific knowledge for pediatric advanced practice nursing. The integrated role of the advanced practice nurse in providing holistic care and collaborative practice is emphasized. PREREQUISITE(S): NSG 461 or by permission of the instructor.

**NSG 477 CLINICAL MANAGEMENT OF WOMEN'S HEALTH AND ILLNESS**

Lectures focus on synthesis and application of scientific knowledge for gynecologic advanced practice nursing. The integrated role of the advanced practice nurse in providing holistic care and collaborative practice is emphasized. PREREQUISITE(S): NSG 460 or 462.

**NSG 478 CLINICAL MANAGEMENT OF ACUTE AND CHRONIC ILLNESSES**

Lectures focus on synthesis and application of scientific knowledge for adult advanced practice nursing. The integrated role of the advanced practice nurse in providing holistic care and collaborative practice is emphasized. PREREQUISITE(S): NSG 475 or equivalent.

**NSG 480 STATISTICAL METHODS FOR THE HEALTH SCIENCES**

An integrated problem-solving approach is used to study statistics and measurement used in medicine, nursing and public health. Building on a basic understanding of statistics, students focus on application of statistical methods in research design, interpretation and utilization. Learning experiences emphasize use of computer technology to access, manage, describe and analyze sample data. PREREQUISITE(S):undergraduate statistics.

**NSG 482 INTRODUCTION TO EPIDEMIOLOGY (PREREQUISITE: ADV HEALTH STATISTICS)**

An investigative problem-solving process is used to study the personal and ecological determinants of health and disease frequencies in diverse populations. Data are manipulated to plan, implement and evaluate health promotion and disease control programs for a variety of health care settings. Infectious and chronic disease prevention are emphasized. Students electing to take the course for four credit hours will complete a project using the epidemiologic method. Two credit hours. PREREQUISITE(S):Advanced Health Statistics.

**NSG 483 PRACTICUM IN POPULATION BASED NURSING PRACTICE I**

Analysis and application of current research is used as the basis for decision-making in performing the health history and physical assessment, contributing to interdisciplinary treatment planning, and teaching for health promotion and illness prevention. nurse in providing holistic care is emphasized.

**NSG 484 PHARMACOLOGY FOR ADVANCED NURSING PRACTICE**

Provides the advanced-practice nurse with the knowledge base necessary to manage pharmacological therapy for acute and chronically ill clients collaboratively with other members of the health care team. Direct and indirect responsibility for clinical decision-making regarding the administration, management and evaluation of drugs are emphasized. PREREQUISITE(S):Physiology for Advanced Nursing Practice or equivalent or concurrent registration, Organic and Inorganic Chemistry, and Microbiology.

**NSG 485 THE ART OF FAMILY & COMMUNITY NURSING I ( PREREQUISITE: NSG 483)**

The art of nursing is practiced in simulations and within health care environments with a focus on the roles of health care provider, health facilitator, and care manager.

Learning experiences focus on families as both context and client, including healthy infants, children, and women who may be experiencing actual or potential illness manifestations or injury patterns. PREREQUISITE: NSG 483. Eight credit hours.

**NSG 486 THE ART OF FAMILY & COMMUNITY NURSING II ( Prerequisite: NSG 485)**

The art of nursing is practiced with a focus on integrating the roles of health care provider, teacher, and case manager. Learning experiences focus on adults and families in a variety of settings including the home, hospital, and community. Emphasis is placed on the critical appraisal of individual and community health patterns and mental illness manifestations, and the development and testing of therapeutic nursing interventions in collaboration with other health professionals. Prerequisite: NSG 485. Eight credit hours.

**NSG 487 PRACTICUM IN POPULATION-BASED NURSING PRACTICE II**

A clinical course focusing on the care of selected populations groups in the context of community based delivery systems, e.g., public health. Community assessment and program development are conducted as a basis for family-centered health promotion across the life span.

**NSG 488 ISSUES AND CONCEPTS IN POPULATION-BASED NURSING PRACTICE (PREREQUISITES)**

A seminar course that explores theory, research, and practice of the nurse practitioner/clinical nurse specialist role in managing care for selected populations in the community. Topics including design and testing of clinical nursing practice protocols, managed care, collaborative agreements, professional leadership strategies, and the preceptor relationship.

**NSG 489 PRACTICUM IN HOME HEALTH CARE (PREREQUISITE: NSG 488)**

This course focuses on the episodic care of individuals and families who experience acute illness and need home health care services. Clinical reasoning and therapeutic management of high-technology health care in the home are emphasized. The concepts of case management, client advocacy, family/caregiver education and support, advanced role application and family-centered care are integrated from core courses. The legal and ethical issues in provision of high-technology home care are addressed. Six credit hours.

**NSG 490 PRACTICUM IN POPULATION-BASED NURSING PRACTICE III**

This course continues the focus on the care of selected population groups in the context of community based delivery systems, e.g. evidence-based practice and case management. The program designed in NSG 487 is implemented and evaluated. PREREQUISITE: NSG 487

**NSG 491 PRACTICUM IN ACUTE AND CHRONIC ILLNESS**

Six credit hours.

**NSG 492 CLINICAL DECISION-MAKING IN ADVANCED PRACTICE NURSING I ( Prerequisite: NSG 422 & 481)**

A clinical seminar course designed to introduce the registered nurse to the clinical reasoning process in primary care and its application in the assessment of health and illness across the lifespan. Interpretation of x-ray and laboratory tests is considered as it illuminates findings from the health history and physical exam. Population specific emphasis is provided in small group working sessions. Prerequisite: NSG 422 & 481. Two credit hours.

**NSG 493 CLINICAL DECISION-MAKING IN ADVANCED PRACTICE NURSING II (NSG 483 & 492. Corequisite: NSG 487)**

This continues the clinical seminar course with a focus on the differential diagnosis and clinical management of illness in primary care setting. Prerequisite: NSG 483 & 492. Corequisite: NSG 487. Two credit hours.

**NSG 494 CLINICAL DECISION-MAKING IN ADV PRACTICE NURSING III (Prereq: NSG 487 & 493. Coreq: NSG 489,490,491)**

**NSG 498 PROFESSIONAL NURSE ROLE DEVELOPMENT (Corequisite: NSG 486)**

The nurse as clinician, educator, manager, activist, research coordinator, and entrepreneur are some of the many roles available to professional nurses in contemporary society. This course provides opportunity to explore selected roles of the professional nurse and the advanced practice nurse in diverse practice settings. Students select readings and seminar topics for discussion in class as well as design and implement a project for a selected professional nurse role. Principles of needs assessment, program planning and evaluation provide the framework for the project. Refinement of skills in critical thinking, decision-making, communication, and innovation are emphasized. Corequisite: NSG 486. Two credit hours.

**NSG 500 CHEMISTRY AND PHYSICS (INLCUDES CELL PHYSIOLOGY)**

Survey of principles of physics and comprehensive analysis of cell physiology, organic and biochemistry with emphasis upon clinical application and integration of principles in the advanced practice of nurse anesthesia. Current research findings and their anesthetic implications will be discussed. Six credit hours.

**NSG 501 ANATOMY AND PHYSIOLOGY I**

An intensive course designed to provide the nurse anesthetist with current knowledge of advanced anatomy and physiology of the nervous system and endocrine systems. Emphasis is placed on the structural and functional role of each system in maintaining homeostasis. Clinical implications of current research findings will be stressed.

**NSG 502 ANATOMY AND PHYSIOLOGY II**

An intensive course designed to provide the nurse anesthetist with current knowledge of advanced anatomy and physiology of the cardiovascular, respiratory and renal systems. Emphasis is placed on the structural and functional role of each system in maintaining homeostasis. Clinical implications of current research findings will be stressed. Six credit hours. PREREQUISITE(S):

**NSG 503 PATHOPHYSIOLOGY**

An intensive course designed to provide the nurse anesthetist with current knowledge of diseases and disorders of the nervous, cardiovascular, respiratory and renal systems. Implications for the design and implementation of an appropriate nurse anesthesia care plan for individuals with specific system disease/disorders will be discussed in detail. Emphasis will be placed on system-specific diagnostic and therapeutic procedures that require nurse anesthesia management. Six credit hours.

**NSG 504 PRINCIPLES OF ANESTHESIA PRACTICE I**

This course is designed to introduce the student to the advanced practice of nurse anesthesia. Emphasis is placed upon pre-operative patient assessment, informed consent, anesthesia equipment and technology, intra-operative patient assessment, and postoperative patient care. Ethical, legal, and professional issues that influence the advanced practice of nurse anesthesia will be addressed. Laboratory experience included.

**NSG 505 PRINCIPLES OF ANESTHESIA PRACTICE II**

An intensive course designed to provide the nurse anesthetist with current knowledge of special populations, including pediatric, obstetric, and geriatric patients. Emphasis will be placed on the anatomical and physiological differences that characterize the population with a focus on specific anesthetic management. Principles and techniques of regional anesthesia and pain management will also be discussed in detail. The design and implementation of an appropriate nurse anesthesia care plan for the geriatric, obstetric, and pediatric patient who requires regional anesthesia or pain management will be stressed.

**NSG 506 PRINCIPLES OF ANESTHESIA PRACTICE III**

An in-depth course with emphasis on the pathophysiology and anesthetic management of the trauma and burn patient, patients presenting for EENT surgery and peripheral-vascular surgery, and preparation and anesthetic management of patients undergoing diagnostic and therapeutic procedures outside of the operating room. Implications for the development, implementation, and evaluation of nurse anesthesia care plans will be stressed.

**NSG 507 PHARMACOLOGY I**

This course is an in depth introduction to anesthetic pharmacology. It covers the pharmacokinetics, pharmacodynamics, and pharmacotherapeutics of drugs used in the administration of general, local, and regional anesthesia and provides the scientific basis for the advanced practice of nurse anesthesia. Six credit hours.

**NSG 508 PHARMACOLOGY II**

This course builds on the pharmacokinetics principles covered in NSG 507 and includes the pharmacodynamics, and pharmacotherapeutics of drugs used in the treatment of cardiac, vascular, respiratory, endocrine, renal, and neurological/physiological disorders. Implications of current therapy with these agents as adjunctive therapy in the advanced practice of nurse anesthesia will be stressed.

**NSG 510 ANESTHESIA PRACTICUM I (FORMERLY NSG 509 PREREQUISITES: PHARM I, PAP I)**

An introduction to the clinical practice of nurse anesthesia with emphasis on the principles introduced in NSG 500, 504, and 507. Includes administration of anesthesia for select patient populations under direct instruction and supervision of anesthesiologist or CRNA. Clinical site: Ravenswood Hospital Medical Center. 0 credit hours

**NSG 511 ANESTHESIA PRACTICUM II (FORMERLY #510) (PREREQ: NSG 510, APPI/APPII/APPIII)**

Expanded application and integration of basic principles applicable to NSG 510. Anesthesia Practicum I. Clinical site: Ravenswood Hospital Medical Center. 0 credit hours

**NSG 512 ANESTHESIA PRACTICUM III (PREREQUISITES: NSG 510, 511)**

This practicum provides the student with an opportunity to apply and integrate the basic principles of nurse anesthesia practice. Emphasis is on the anesthetic comprehensive management of the adult patient presenting for elective and emergency surgery. Clinical site: Ravenswood Hospital Medical Center. 0 credit hours

**NSG 513 ANESTHESIA PRACTICUM IV (PREREQUISITES: NSG 510, 511, 512)**

The first of four advanced anesthesia practica that allow the senior student to develop, implement, and evaluate nurse anesthesia care plans for all patient populations

undergoing a wide variety of specialty surgical and therapeutic procedures. It is designed to broaden the knowledge and skill base of the second year student. Includes seminar presentations on selected topics or issues relative to the advanced practice of nurse anesthesia. Clinical site: Ravenswood Hospital Medical Center and assigned affiliate clinical sites. 0 credit hours

**NSG 514 ANESTHESIA PRACTICUM V (PREREQUISITES: NSG 510,511,512,513)**

The second in a series of advanced practica that provide student with the opportunity to develop, implement, and evaluate an anesthesia care plan for all patient populations undergoing a wide variety of surgical and therapeutic procedures. 0 credit hours

**NSG 515 ANESTHESIA PRACTICUM VI (PREREQUISITES: NSG 510, 511, 512, 513, 514)**

The third in a series of advanced practica that provide the student with the opportunity to develop, implement, and evaluate an anesthesia care plan for all patient populations undergoing a wide variety of surgical and therapeutic procedures. Emphasis is placed on application, integration, and synthesis of the knowledge, skills, and attitudes representative of the advanced practice of nurse anesthesia. Includes seminar presentations on selected topics or issues relative to the advanced practice of nurse anesthesia. Clinical Site: Ravenswood Hospital Medical Center or assigned affiliate clinical sites. 0 credit hours

**NSG 516 ANESTHESIA PRACTICUM VII (PREREQUISITES: NSG 510, 511, 512, 513, 514, 515)**

The final advanced practicum in which the senior student demonstrates the knowledge, skills, and attitudes necessary for entry level nurse anesthesia practice: proficiency in providing perioperative nurse anesthesia care for all patient populations; an ethical and culturally sensitive approach to patient care; analysis and synthesis of current research for application into practice; ability to perform a comprehensive self evaluation; cost containment strategies; and display of a professional attitude toward life long learning. Includes seminar presentations on selected topics or issues relative to the advanced practice of nurse anesthesia. Clinical site: Ravenswood Hospital Medical Center and assigned affiliate clinical sites. 0 credit hours

**NSG 521 INNOVATIONS IN HEALTH CARE DELIVERY (CROSS-LISTED AS NSG 452)**

This course provides the laboratory and clinical experiences for the development of the professional nurse role as case manager and administrator. Learning activities focus on implementing contemporary data-based nursing practice models in a variety of health care settings, and the diffusion of innovation at the individual, family and organizational levels.

**NSG 525 SCIENTIFIC FOUNDATIONS FOR ADVANCED PRACTICE NURSING**

**NSG 525 SCIENTIFIC FOUNDATIONS FOR ADVANCED PRACTICE NURSING**

**NSG 598 GRADUATE SYNTHESIS (PREREQUISITES: NSG 400, NSG 401, NSG 402, NSG 480 AND PERMISSION OF INSTRUCTOR)**

Students conduct supervised research terminating in a manuscript suitable for publication. The study must be approved by the selected faculty advisor and the Nursing Department Human Subjects Committee prior to registration for credit hours. Students are encouraged to generate research questions from their clinical area of study courses early in their program. PREREQUISITE(S): NSG 400, NSG 401, NSG 402 and NSG 480 and permission of instructor

### **NSG 599 THESIS RESEARCH**

Students conduct supervised original research terminating in a completed and bound thesis. The study must be approved by the selected faculty advisor and the thesis committee approved by the department prior to registration for credit hours and must be completed during the term. Formerly NSG 405. PREREQUISITE(S):NSG 400, 401, 402,480 & permission of instructor.

## **PHYSICAL EDUCATION**

### **PE 450 PSYCHOLOGY OF SPORT BEHAVIOR AND ATHLETIC PERFORMANCE**

A study of the philosophical and psychological concepts pertaining to sports, in general, and competitive athletic programs specifically. The course will be conducted in a seminar style, analyzing the various coaching and administrative techniques in sports programs. Emphasis will be given to intercollegiate sports. Elementary, secondary and professional sports programs will be included.

### **PE 451 CURRENT ISSUES AND TRENDS IN ATHLETICS AND PHYSICAL EDUCATION**

An analysis of the current issues, trends and changes in competitive athletic programs and physical education programs. Major consideration will be given to problems relating to development of goals and objectives, preparation of program budgets, financial considerations, media input, and legal ramifications of the various programs.

### **PE 452 EXERCISE SCIENCE AND SPORT**

A study of the advanced concepts and theory pertaining to analysis of human movement. Application will be made for the teaching of fundamental motor skills as well as the specialized analysis made by the coach. Discussion of the various techniques, sophisticated equipment, and empirical evidence will support the conclusions determined in the seminar. The course will be designed for professional physical educators and individuals involved in the coaching profession.

### **PE 453 ADVANCED HEALTH CONCEPTS**

This course will present advanced concepts in health for the individual interested in Health Education or the Allied Health Professions. Emphasis will be placed on instructional methodology, curriculum planning, and educational evaluation in the health profession.

### **PE 454 ADVANCED CARE OF THE ATHLETE**

This course is designed to expand the student's knowledge of athletic injuries, incorporating hands-on experience. Topics will include current issues in anatomy and physiology; athletic first aid and emergency situations; standard procedure for diagnosis and treatment; conditioning, prehabilitation and rehabilitation; heat stress injuries; nutrition and eating disorders; taping, wrapping and bracing; and other related topics in sports medicine.

### **PE 455 INTERNSHIP IN PHYSICAL EDUCATION**

This internship is designed to enrich student understanding of organizational and administrative principles through practical opportunities working with experienced professionals in the field of Sport and Physical Education.

**PE 456 MEDICAL AND LEGAL ASPECTS OF COACHING**

**PE 457 ADVANCED COACHING THEORIES & TECHNIQUES (CROSSLISTED PE 391)**

## **PHILOSOPHY**

**PHL 400 SPECIAL TOPICS IN TRADITIONAL PHILOSOPHERS**

**PHL 410 PLATO I**

A study of Plato's life and early dialogues.

**PHL 411 PLATO II**

A study of the middle and later dialogues.

**PHL 415 ARISTOTLE I**

A study of Aristotle's life and selected topics of his theoretical philosophy: organon, physics, psychology, and metaphysics.

**PHL 416 ARISTOTLE II**

A study of aspects of Aristotle's practical and productive philosophy: ethics, politics, rhetoric, and poetics.

**PHL 420 AUGUSTINE**

A study of Augustine's philosophy through an examination of some of his major writings.

**PHL 425 AQUINAS**

A study of his philosophy, especially its relations to theology, through an examination of selected major works.

**PHL 434 HOBBS**

An examination of Hobbes' role as the father of modern political philosophy: a study of the Leviathan and the Elements of Law.

**PHL 435 DESCARTES**

An examination of Descartes' role as the father of modern philosophy; issues of the Regulae, the Discours, and the Meditations.

**PHL 436 MALEBRANCHE**

**PHL 437 LOCKE**

A study of the major theoretical works.

**PHL 438 LEIBNIZ**

A study of the major philosophical works.

**PHL 440 SPINOZA**

A study of the Ethics and/or the Theologico-Political Treatise.

**PHL 441 ROUSSEAU**

A study of the major theoretical works.

**PHL 443 MEDICAL LEGAL ETHICS (SEE INSTRUCTOR FOR REGISTRATION)**

An examination of contemporary problems in the area of medical legal ethics.

**PHL 445 HUME**

An examination of Hume's place in classical British empiricism; a study of A Treatise of Human Nature.

**PHL 451 EARLY AMERICAN PHILOSOPHY**

**PHL 452 CONTEMPORARY AMERICAN PHILOSOPHY**

**PHL 470 PHILOSOPHY OF WITTGENSTEIN (INSTRUCTOR'S PERMISSION REQUIRED)**

**PHL 495 ADVANCED SYMBOLIC LOGIC**

**PHL 500 SPECIAL TOPICS IN THE HISTORY OF PHILOSOPHY**

**PHL 510 KANT I**

An introduction to the critical philosophy of Kant by concentrating on the Critique of Pure Reason.

**PHL 511 KANT II**

A study of the Critique of Practical Reason or the Critique of Judgment.

**PHL 512 KANT III**

Kant III: Kant's Political Writings

**PHL 513 THEORETICAL FOUNDATIONS OF NORMATIVE ETHICS I**

A comparative overview of the ethical writings of Aristotle and Aquinas, with emphasis on the natural law tradition.

**PHL 514 THEORETICAL FOUNDATIONS OF NORMATIVE ETHICS II**

A comparative overview of Kant's moral theory and Mill's moral theory.

**PHL 515 HEGEL I**

An Introduction to Hegel: The Phenomenology of Spirit.

**PHL 516 HEGEL II**

Readings in the Science of Logic or the Philosophy of Right.

**PHL 517 HOLDERLIN**

An examination of the major theoretical writings, ca. 1797-1804.

**PHL 518 SCHELLING**

An examination of the treatise on human freedom (1809).

**PHL 520 MARX I**

An introduction to Marx through a study of selected topics and works.

**PHL 521 MARX II**

A study of selected topics and works from both Marx/Engels and their disciples.

**PHL 522 SOCIAL AND POLITICAL PHILOSOPHY**

**PHL 525 NIETZSCHE**

An introduction to the philosophy of Nietzsche through Beyond Good and Evil, Thus Spake Zarathustra and selected topics and works.

**PHL 527 PHILOSOPHY, ETHICS, AND ECONOMICS**

An examination of classical and contemporary theories from Smith and Marx to Friedman, Held and others.

**PHL 535 HUSSERL I**

An introduction to Husserl through a study of selected topics and works.

**PHL 536 HUSSERL II**

Selected topics and works.

**PHL 540 SCHELER I**

An introduction to Scheler, with emphasis on the phenomenology of value.

**PHL 541 SCHELER II**

Selected topics and works (Resentment, etc)..

**PHL 550 HEIDEGGER I**

An introduction to Heidegger through study of a major work and one of the Marburg lectures.

**PHL 551 HEIDEGGER II**

Selected topics and questions.

**PHL 552 HEIDEGGER III**

**PHL 557 TOPICS IN CONTINENTAL PHILOSOPHY**

**PHL 559 FOUCAULT**

An introduction to Foucault through a study of selected topics and works.

**PHL 560 THE PHILOSOPHY OF GABRIEL MARCEL**

The Philosophy Of Gabriel Marcel

**PHL 561 LYOTARD**

An introduction to Lyotard through a study of selected topics and works.

**PHL 565 MERLEAU-PONTY I**

A study of The Phenomenology of Perception with consideration given to Merleau-Ponty's place in contemporary philosophy.

**PHL 566 MERLEAU-PONTY II**

A study of the themes of his social philosophy and final ontology.

**PHL 570 SARTRE I**

A study of Being and Nothingness with attention given to Sartre's early phenomenological studies as background and to some of his literary works and criticism, such as Nausea and Saint-Genet.

**PHL 571 SARTRE II**

The social thought of Jean-Paul Sartre. A study of A Critique of Dialectic Reason along with appropriate literary works and more recent political writings.

**PHL 575 RESPONSES TO SADE**

An examination of Sade's writings and responses by such thinkers as de Beauvoir, Lacan, Deleuze, Klossowski, and Blanchot.

**PHL 577 DERRIDA I**

An introduction to Derrida through a study of selected topics and works.

**PHL 578 DERRIDA II**

Selected topics and questions.

**PHL 584 RICOEUR NARRATIVE**

**PHL 585 RICOEUR**

A study of Ricoeur's philosophy and phenomenology of the will with stress on its background and its place in contemporary French phenomenology.

**PHL 586 METAPHOR AND POETIC LANGUAGE**

An examination of Ricoeur's work in poetics.

**PHL 587 READING LEVINAS I**

**PHL 588 READING LEVINAS II**

**PHL 589 PHILOSOPHY, LITERATURE, COMMUNITY**

Discussion of such thinkers as Bataille, Derrida, Jabes, and Nancy.

**PHL 590 TRENDS IN CONTEMPORARY FRENCH PHILOSOPHY**

A look at the increasing importance of structuralism, deconstruction, philosophy of language, and hermeneutics in contemporary French thought.

**PHL 591 CRITICAL RACE THEORY**

**PHL 600 SEMINAR ON AMERICAN THOUGHT**

**PHL 601 SEMINAR ON AESTHETICS**

**PHL 629 SEMINAR ON CONTEMPORARY PROBLEMS**

**PHL 639 SEMINAR ON RAWLS, NOZICK, AND THE CONTRACTUAL TRADITION**

A study of the contract model from its roots in Locke and Rousseau to the work of Rawls and Nozick.

**PHL 640 PROBLEMS IN ETHICS (CROSS-LISTED AS GSB 640)**

A seminar in business ethics that centers on theoretical, practical, and pedagogical issues.

**PHL 641 SEMINAR ON THE CONTINENTAL TRADITION IN ETHICS**

A comparative discussion of the ethical theories of Scheler, Hartmann, Brentano, Levinas, etc.

**PHL 650 TOPICS IN RELIGIOUS ETHICS (CROSS-LISTED AS MLS 442 & GSB 650)**

A study of religious influences on theoretical and practical ethics.

**PHL 651 TOPICS IN BUSINESS ETHICS**

A seminar in business ethics that centers on theoretical, practical, and pedagogical issues.

**PHL 656 SEMINAR ON SOCIAL AND POLITICAL THOUGHT**

A study of selected writings of key social and political thinkers.

**PHL 657 TOPICS IN SOCIAL AND POLITICAL THOUGHT**

**PHL 660 SEMINAR IN FEMINIST ETHICS (CROSS-LISTED AS MLS 477/WMS 410)**

Examination of the care perspective as compared to the justice perspective on moral development.

**PHL 661 TOPICS IN FEMINIST THEORY**

Includes such themes as feminist ontologies, theories of discourse and writing, science and technology, etc.

**PHL 697 GRADUATE TEACHING PRACTICUM**

Examination of teaching method concepts.

**PHL 698 MASTER'S THESIS RESEARCH**

Independent investigation of a philosophical problem for the thesis/dissertation.

**PHL 699 DISSERTATION RESEARCH (COURSE OFFERED FOR VARIABLE CREDIT)**

Independent investigation of a philosophical problem for the thesis/dissertation. Variable credit.

**PHL 700 INDEPENDENT STUDY**

**PHL 701 RESIDENT CANDIDACY CONTINUATION**

Students admitted to candidacy for the doctoral degree who have completed all course and dissertation registration requirements and who are using the facilities of the University for study and research are required to be registered each quarter of the academic year until the dissertation and final examination have been completed. Non-credit, \$40.00 per quarter.

**PHL 702 NON-RESIDENT CANDIDACY CONTINUATION**

## **PHYSICS**

### **PHY 400 CLASSICAL MECHANICS FOR TEACHERS**

Concepts and materials for teaching mechanics as part of high school physics. Only offered by arrangement. PREREQUISTE(S):Permission of instructor

### **PHY 401 ELECTRICITY AND MAGNETISM FOR TEACHERS**

The principles of electricity and magnetism, including electric circuits. This level is appropriate for regular and AP high school Physics teachers. Only offered by arrangement. PREREQUISTE(S):Permission of instructor

### **PHY 402 ATOMIC AND NUCLEAR PHYSICS FOR TEACHERS**

This course provides a broad perspective for teachers. It includes atomic, nuclear and some particle physics. Only offered by arrangement. PREREQUISTE(S):Permission of instructor

### **PHY 403 TOPICS IN PHYSICS TEACHING**

Selected topics for high school teachers. May be taken more than once. Only offered by arrangement. PREREQUISTE(S):Permission of instructor

### **PHY 404 OPTICS FOR TEACHERS**

Geometrical and physical optics from the perspective of high school teaching. Applications to photography and holography. Only offered by arrangement. PREREQUISTE(S):Permission of instructor

### **PHY 405 PHYSICAL PRINCIPLES OF TELECOMMUNICATION (PREREQUISITE: MAT 151 OR EQUIVALENT)**

This course intended for nonmajors treats the basic concepts of Physics on which communications are based, such as basic electricity, circuit elements, transmission lines and fibers. Included will be a discussion of combinational and sequential digital circuits. The format consists of lecture and laboratory exercises. PREREQUISTE(S):Mathematics 151 or equivalent. Lab Fee.

### **PHY 406 VIBRATIONS, WAVES AND SOUND FOR TEACHERS**

Techniques for teaching high school science including musical acoustics and sound reproduction. Only offered by arrangement. PREREQUISTE(S):Permission of instructor

### **PHY 410 CHAOS IN PHYSICAL SYSTEMS**

Motion in phasespace, characteristics of chaotic systems, Lyapunov exponents, stability of equilibria, strange attractors, bifurcations, discrete dynamics, applications to lasers, fluids, and other physical systems.

### **PHY 411 ELECTRODYNAMICS I**

Electrostatics and magnetostatics in vacuum and in media; electromagnetic induction; Maxwell's equations; the Poynting vector; electromagnetic wave propagation.

### **PHY 412 QUANTUM MECHANICS I**

Schrodinger equation, operators, eigenvalues; series of eigenfunctions; physical interpretation; one- and three-dimensional applications.

### **PHY 420 ELECTRODYNAMICS II (PREREQUISITE: PHY 411)**

Further studies of electromagnetic wave propagation; scattering; dispersion; bounded structures and guided waves; electromagnetic radiation, including multipole radiations and radiation from systems of radiators. PREREQUISTE(S):PHY 411.

**PHY 425 LASER PHYSICS (CROSS-LISTED AS PHY 325)**

Interaction of radiation and matter, pumping mechanisms for lasers, optical resonators, cw and transient laser behavior, laser types, current topics in optical physics.

**PHY 440 CLASSICAL MECHANICS**

Variational principles; Lagrangian and Hamiltonian mechanics; small oscillations; canonical transformations; Hamilton-Jacobi theory.

**PHY 442 COMPUTATIONAL PHYSICS**

Contemporary Topics in physics are examined via numerical solutions. Calculations using an interactive approach and graphical representation are used extensively.

**PHY 445 STATISTICAL MECHANICS**

Principles of statistical mechanics; applications to weakly interacting systems such as the classical plasma and Fermi gas; strongly interacting systems; transport theory; fluctuations and irreversible processes, phase transitions.

**PHY 450 PHASE TRANSITIONS & CRITICAL PHENOMENON (PREREQ: PHY 340, PHY 445, OR EQUIVALENT)**

Applications of equilibrium statistical mechanics to the study of phase transitions and critical phenomena. Topics include the Ising model of magnetism, critical phenomena in fluids, mean field theory, Landau-Ginzburg theory, and the renormalization group. Prerequisite: PHY 340, PHY 445, or equivalent.

**PHY 454 FOURIER OPTICS**

Fourier Optics and optical processing of information. Topics include diffraction theory, optical transfer functions and holography. The Fourier Transform and Fast Fourier Transform are used extensively.

**PHY 456 FIBER OPTICS (CROSS-LISTED AS PHY 356)**

(Cross-listed as PHY 356) Solution of Maxwell's equations for dielectric wave guides, optical communications, nonlinear effect in dielectric wave guides, and current research.

**PHY 460 QUANTUM MECHANICS II (PREREQUISITE: PHY 412)**

Review of basic quantum theory; vector spaces; linear operators; observables; commutators; projection operations; representations; angular momentum theory; systems of identical particles; invariance. PREREQUISITE(S):PHY 412.

**PHY 465 NUCLEAR PHYSICS (PREREQUISITE: 412 OR EQUIVALENT)**

Theoretical and phenomenological approaches to nuclear structure and strong, electromagnetic, and weak interactions of nuclei. Topics of study include the theory of scattering and decay of nuclei, resonances, nuclear models. PREREQUISITE(S):PHY 412 or equivalent.

**PHY 466 RADIATION PHYSICS**

Interactions of X-rays, nuclear radiations, etc. with matter; radiation detectors; dosimetry; shielding; applications to medical physics. Cross-listed with PHY 366.

**PHY 478 TOPICS IN APPLIED PHYSICS**

This course number is reserved for Individual study at the graduate level. Special seminars organized from time to time to accommodate the needs of groups of students in specialized subjects of topical interest.

**PHY 480 THESIS RESEARCH**

This course number designates research performed to gather thesis material. Up to two registrations are allowed. No less than four quarter hours; no more than eight quarter hours total credit.

**PHY 490 STRUCTURAL PROPERTIES OF MATERIALS**

Periodicity, symmetry and classification of crystal structure; X-ray diffraction; reciprocal lattice; crystal binding. Debye theory of heat capacity; anharmonic interactions; point defects; surfaces.

**PHY 491 ELECTONIC PROPERTIES OF MATERIALS**

The free-electron gas model; energy band theory; theory of metals and alloys; transport phenomena; dia- and para-magnetism, ferromagnetism, and antiferromagnetism; superconductivity.

**PHY 701 CANDIDACY CONTINUATION**

Non-credit. Required of all students who are not registered for regular courses but who occasionally utilize University facilities (computer lab and library) during completion of course requirements and/or research. \$40.00 per quarter.

**PHY 702 NON-RESIDENCY CANDIDACY CONTINUATION**

Non-Residency Candidacy Continuation

**PERFORMANCE****PRF 511 GRADUATE ACTING I**

Four quarter hours. Beginning with a series of exercised and improvisations, the class introduces the acting student to the basic components of the acting process. Scene work forms the backbone of this class. (prereq)

**PRF 512 GRADUATE ACTING I**

Four quarter hours. Beginning with a series of exercised and improvisations, the class introduces the acting student to the basic components of the acting process. Scene work forms the backbone of this class. (prereq)

**PRF 513 GRADUATE ACTING I**

Four quarter hours. Beginning with a series of exercised and improvisations, the class introduces the acting student to the basic components of the acting process. Scene work forms the backbone of this class. (prereq)

**PRF 521 GRADUATE MOVEMENT I**

Two quarter hours. Movement based on the technique of yoga as a means for the discovery of body mechanics, physical alignment, self-use and over-all self-awareness. This class will also meet two extra hours with a different instructor to concentrated on the imaginative use of self, to explore physical improvisation and to explore movement techniques that will aid the student to use themselves more freely and expand their range of expression.

**PRF 522 GRADUATE MOVEMENT I**

Two quarter hours. Movement based on the technique of yoga as a means for the discovery of body mechanics, physical alignment, self-use and over-all self-awareness.

This class will also meet two extra hours with a different instructor to concentrated on the imaginative use of self, to explore physical improvisation and to explore movement techniques that will aid the student to use themselves more freely and expand their range of expression. (prereq) PRF 521

**PRF 523 GRADUATE MOVEMENT I**

Two quarter hours. Work focuses on full body awareness through Feldenkrais (R) movement lessons and through the study of anatomy. The emphasis will be place on deepening the actor's kinesthetic awareness and on developing a more articulate physical instrument, understanding the restrictions of habit, exploring dynamics and increasing the ability to make dynamic choices. (prereq) PRF 522

**PRF 530 MFA I SPEECH**

This course is designed to open awareness regarding the placement of vocal resonance and the shaping of vowels and consonants.

**PRF 531 GRADUATE VOICE AND SPEECH I**

Two quarter hours. Foundation work consists of breathwork, skeletal alignment, and the development of free voice flow. Classes include a regime of intensive group exercises, and attention is paid to the expansion of each actor's individual expressiveness. The fundamental work is inspired by the Feldenkrais(r) and the Lessac System and is further influenced by the writings of Cicely Berry and Patsy Rodenburg. (prereq)

**PRF 532 GRADUATE VOICE AND SPEECH I**

Two quarter hours. Foundation work consists of breathwork, skeletal alignment, and the development of free voice flow. Classes include a regime of intensive group exercises, and attention is paid to the expansion of each actor's individual expressiveness. The fundamental work is inspired by the Feldenkrais(r) and the Lessac System and is further influenced by the writings of Cicely Berry and Patsy Rodenburg. (prereq)

**PRF 533 GRADUATE VOICE AND SPEECH I**

Two quarter hours. Actors will continue to explore fundamental skills acquired during Fall and Winter Quarters. The actors learn the first half of the progression of exercises in Kristin Linklater's Freeing the Natural Voice. The focus is on connecting acting impulses to the voice.

**PRF 551 MFA I IMPROVISATION**

MFA I Improvisation (2 quarter hours) Intensive work in Spolin-based improvisation in which the issues of creating theatrical reality are addressed through the medium of theatre games.

**PRF 552 MFA I IMPROVISATION**

MFA I Improvisation (2 quarter hours) Intensive work in Spolin-based improvisation in which the issues of creating theatrical reality are addressed through the medium of theatre games.

**PRF 553 MFA I IMPROVISATION**

MFA I Improvisation (2 quarter hours) Intensive work in Spolin-based improvisation in which the issues of creating theatrical reality are addressed through the medium of theatre games.

**PRF 561 REHEARSAL AND PERFORMANCE I**

Five quarter hours. Graduate acting and direction students are continually involved in rehearsal and performance of plays in the Showcase, the Playworks series and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 562 REHEARSAL AND PERFORMANCE I**

Five quarter hours. Graduate acting and direction students are continually involved in rehearsal and performance of plays in the Showcase, the Playworks series and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 563 REHEARSAL AND PERFORMANCE I**

Five quarter hours. Graduate acting and direction students are continually involved in rehearsal and performance of plays in the Showcase, the Playworks series and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 580 STAGE COMBAT**

One quarter hour. Students learn the fundamental of hand-to hand combat and weaponry with a focus on developing skills safely and effectively for the stage. (prereq)

**PRF 581 DIRECTING I**

Three quarter hours. This course covers the basics of the directing process with an emphasis on textual analysis. Lecture discussion and performance projects are utilized to develop a common understanding and vocabulary useable in the wide variety of theatrical situations the contemporary director is likely to confront. The final project of the class is the direction of a short play. (prereq)

**PRF 582 DIRECTING I**

Three quarter hours. This course covers the basics of the directing process with an emphasis on textual analysis. Lecture discussion and performance projects are utilized to develop a common understanding and vocabulary useable in the wide variety of theatrical situations the contemporary director is likely to confront. The final project of the class is the direction of a short play. (prereq)

**PRF 583 DIRECTING I**

Three quarter hours. This course covers the basics of the directing process with an emphasis on textual analysis. Lecture discussion and performance projects are utilized to develop a common understanding and vocabulary useable in the wide variety of theatrical situations the contemporary director is likely to confront. The final project of the class is the direction of a short play. (prereq)

**PRF 590 IMPROVISATION**

Four quarter hours. This workshop for graduating and performance students is designed to renew the student's relationship with the foundation of the training program: Spolin-based improvisational work. There is a particular emphasis on the use of games as a stimulus for spontaneity, strong playing relationships and trouble shooting within the rehearsal process.

**PRF 591 DIRECTING THEORIES**

Directing Theories (4 quarter hours) This course is designed to introduce students to the history of stage directing as an independent art form and to the key directorial thinkers of Western theatre. Through both lecture and practice, student learn the theories and techniques of such innovators as Stanislavski, Meyerhold, Craig Artaud,

Brecht, Clurman, Grotowski, Brook, LeCompte, and Bogart.

**PRF 592 DIRECTING THEORIES**

(4 Quarter Hours). This course is designed to introduce students to the history of stage directing as an independent art form and to the key directorial thinkers of Western theatre. Through both lecture and practice, student learn the theories and techniques of such innovators as Stanislavski, Meyerhold, Craig Artaud, Brecht, Clurman, Grotowski, Brook, LeCompte, and Bogart.

**PRF 599 INDEPENDENT STUDY**

**PRF 611 GRADUATE ACTING II**

Five quarter hours. Classical work begins with Shakespeare and possibly other classical texts. Special focus is given to Scansion and First Folio technique. This study is coordinated with both movement and voice and speech classes. (prereq) PRF 513

**PRF 612 GRADUATE ACTING II**

Five quarter hours. Classical work begins with Shakespeare and possibly other classical texts. Special focus is given to Scansion and First Folio technique. This study is coordinated with both movement and voice and speech classes. (prereq) PRF 611

**PRF 613 GRADUATE ACTING II**

Five quarter hours. Classical work begins with Shakespeare and possibly other classical texts. Special focus is given to Scansion and First Folio technique. This study is coordinated with both movement and voice and speech classes. (prereq) PRF 612

**PRF 614 THE DIRECTOR AND THE ACTING PROCESS**

This year-long class focuses on how the director helps the actor. Through both participation and observation in this undergraduate scene study class taught by a senior member of the acting faculty, the directing student acquires the skills and strategies necessary in helping the actor personalize and embody the text.

**PRF 615 THE DIRECTOR AND THE ACTING PROCESS**

This year-long class focuses on how the director helps the actor. Through both participation and observation in this undergraduate scene study class taught by a senior member of the acting faculty, the directing student acquires the skills and strategies necessary in helping the actor personalize and embody the text.

**PRF 616 THE DIRECTOR AND THE ACTING PROCESS**

This year-long class focuses on how the director helps the actor. Through both participation and observation in this undergraduate scene study class taught by a senior member of the acting faculty, the directing student acquires the skills and strategies necessary in helping the actor personalize and embody the text.

**PRF 617 TECHNIQUE**

One quarter hour. An advanced level acting course which concentrates the work on carefully selected exercises, monologues and scenes, in order to develop physical, sensorial and emotional skills in preparing a role. (prereq)

**PRF 618 TECHNIQUE**

One quarter hour. An advanced level acting course which concentrates the work on carefully selected exercises, monologues and scenes, in order to develop physical, sensorial and emotional skills in preparing a role. (prereq)

**PRF 619 TECHNIQUE**

One quarter hour. An advanced level acting course which concentrates the work on carefully selected exercises, monologues and scenes, in order to develop physical, sensorial and emotional skills in preparing a role. (prereq)

**PRF 621 GRADUATE MOVEMENT II**

Two quarter hours. Movement work focused on the exploration of effort/shape and how to function within the boundaries of form. Period dances, manners, and clothing will be explored and the creation of specific worlds (styles) will be emphasized. (prereq) PRF 523.

**PRF 622 GRADUATE MOVEMENT II**

Two quarter hours. Movement work focused on the exploration of effort/shape and how to function within the boundaries of form. Period dances, manners, and clothing will be explored and the creation of specific worlds (styles) will be emphasized. (prereq) PRF 621

**PRF 623 GRADUATE MOVEMENT II**

Two quarter hours. Movement work designed to further the work in period dances, manners, and the creation of specific worlds (styles) with an emphasis on the student taking greater control of this research and its implementation into actin. Full Body awareness through movement lessons is continued. Imaginative use of self is also channeled through character mask work. (prereq) PRF 622

**PRF 631 GRADUATE VOICE AND SPEECH II**

Two quarter hours. Intensive, individualized work on the development of the full range of the actor's voice. The second half of the Linklater progression is explored in depth. Texts are chosen that place greater demands on the actor's growing emotional and vocal capabilities. (prereq) PRF 533

**PRF 632 GRADUATE VOICE AND SPEECH II**

Two quarter hours. Intensive, individualized work on the development of the full range of the actor's voice. The second half of the Linklater progression is explored in depth. Texts are chosen that place greater demands on the actor's growing emotional and vocal capabilities. (prereq) PRF 631

**PRF 633 GRADUATE VOICE AND SPEECH II**

Two quarter hours. Intensive, individualized work on the development of the full range of the actor's voice. The second half of the Linklater progression is explored in depth. Texts are chosen that place greater demands on the actor's growing emotional and vocal capabilities. (prereq) PRF 632

**PRF 661 REHEARSAL AND PERFORMANCE II**

Five quarter hours. Graduate acting and directing students are continually involved in rehearsal and performance of plays in the showcase, the Playworks series, and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 662 REHEARSAL AND PERFORMANCE II**

Five quarter hours. Graduate acting and directing students are continually involved in rehearsal and performance of plays in the showcase, the Playworks series, and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 663 REHEARSAL AND PERFORMANCE II**

Five quarter hours. Graduate acting and directing students are continually involved in rehearsal and performance of plays in the showcase, the Playworks series, and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 681 DIRECTING II**

Three quarter hours. A laboratory class in which student directed scenes are rehearsed and presented for discussion and criticism. Several cuttings are directed during the year. (prereq) PRF 583

**PRF 682 DIRECTING II**

Three quarter hours. A laboratory class in which student directed scenes are rehearsed and presented for discussion and criticism. Several cuttings are directed during the year. (prereq) PRF 681

**PRF 683 DIRECTING II**

Three quarter hours. A laboratory class in which student directed scenes are rehearsed and presented for discussion and criticism. Several cuttings are directed during the year. (prereq) PRF 682

**PRF 690 INTERNSHIP**

The internship provides the student with an opportunity to learn by working with experienced professionals in an area related to his or her area of study at The Theatre School.

**PRF 711 GRADUATE ACTING III**

Three quarter hours. A scene study and monologue class taught by a resident or visiting actor or director. Scenes and monologues are drawn from a variety of performance styles. The class is intended to help the student navigate the gap between training and the professional acting world. (prereq) PRF 613

**PRF 712 GRADUATE ACTING III**

Three quarter hours. A scene study and monologue class taught by a resident or visiting actor or director. Scenes and monologues are drawn from a variety of performance styles. The class is intended to help the student navigate the gap between training and the professional acting world. (prereq) PRF 711

**PRF 713 GRADUATE ACTING III**

Three quarter hours. A scene study and monologue class taught by a resident or visiting actor or director. Scenes and monologues are drawn from a variety of performance styles. The class is intended to help the student navigate the gap between training and the professional acting world. (prereq) PRF 712

**PRF 716 GRADUATE SHOWCASE**

(2 Quarter Hours). Through the rehearsal process, graduate acting majors prepare monologues and scenes, culminating ultimately in a showcase for an invited audience of casting directors, agents, and directors.

**PRF 720 ACTING FOR THE CAMERA**

Two quarter hours. "Film acting" prepares the student for the professional world in front of the camera. Working in front of the camera(s), the student learns the different techniques between stage and film techniques and the differences, between soaps, sitcoms, commercials, and features. The student is also exposed to life on the set, contracts, agents, managers and steps to finding work. This class is a bridge for the

student for the student from the classroom to the professional world.

**PRF 721 GRADUATE MOVEMENT III**

Two quarter hours. The technique of movement to music will be used to: stimulate the actor's imagination, experiment with the identification, translation, and articulation of creative impulses, intensify ensemble work, expand the range of expression and strengthen and condition the body. (prereq) PRF 623

**PRF 722 GRADUATE MOVEMENT III**

Two quarter hours. An independent study of movement for the actor. (prereq) PRF 721

**PRF 723 GRADUATE MOVEMENT III**

Two quarter hours. The students will explore African dance, including West African dance styles, songs and rhythms, ethnic groups from which the dances and songs originated, and the relationships between various West Africa tribal rhythms and movements. (prereq) PRF 722

**PRF 731 GRADUATE VOICE AND SPEECH III**

Two quarter hours. Students continue to develop professional skills through singing. (prereq) PRF 633

**PRF 732 GRADUATE VOICE AND SPEECH III**

Two quarter hours. Students acquire flexibility in role development through vocal exploration (prereq) PRF 731

**PRF 733 VOICEOVER**

Two quarter hours. The course is designed to continue the development of professional skills through the study of voiceover. (prereq) PRF 732

**PRF 761 REHEARSAL AND PERFORMANCE III**

Five quarter hours. Graduate acting and directing students are continually involved in rehearsal and performance of plays in the Showcase, the Playworks series, and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 762 REHEARSAL AND PERFORMANCE III**

Five quarter hours. Graduate acting and directing students are continually involved in rehearsal and performance of plays in the Showcase, the Playworks series, and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 763 REHEARSAL AND PERFORMANCE III**

Five quarter hours. Graduate acting and directing students are continually involved in rehearsal and performance of plays in the Showcase, the Playworks series, and workshop productions. Acting students constitute the casting pool for the school. (prereq)

**PRF 771 SEMINAR: SPECIAL TOPICS IN DIRECTING**

According to the expertise of faculty and the needs and interests of advanced students, this course deals variously with selected topics in stage directing, including the history and development of stage directing as an independent art form, directing theory, and directing methodology.

**PRF 781 THESIS PROJECT IN DIRECTING**

Nine quarter hours. A year long research and performance project that culminates in a fully supported production and written thesis. The production is part of The New Directors Series presented for the general public. (prereq)

**PRF 782 THESIS PROJECT IN DIRECTING**

Nine quarter hours. A year long research and performance project that culminates in a fully supported production and written thesis. The production is part of The New Directors Series presented for the general public. (prereq)

**PRF 783 THESIS PROJECT IN DIRECTING**

Nine quarter hours. A year long research and performance project that culminates in a fully supported production and written thesis. The production is part of The New Directors Series presented for the general public. (prereq)

**PSYCHOLOGY****PSY 402 PERCEPTUAL PROCESSES**

Analysis of the variables involved in the determination of perception with particular attention to the problems of space, motion, distance, size, form, the aftereffects and the constancies.

**PSY 404 LEARNING AND COGNITIVE PROCESSES**

Survey of classical and instrumental conditioning, biological constraints, attention, memory, and practical applications. Major theoretical approaches include stimulus-response, early cognitive theories and information processing theory.

**PSY 406 PHYSIOLOGICAL PROCESSES**

The functional role of neural systems important for the processes of motivation, emotion, sleep, memory, and cognition.

**PSY 409 STATISTICS FOR THE BEHAVIORAL SCIENCES (PREREQ(S): PSY 240)**

Applied inferential statistics. PREREQUISITE(S): PSY 240.

**PSY 410 ADVANCED STATISTICS I (CROSS-LISTED AS SOC 450)**

Graphical methods for data display, analysis of variance, multiple comparisons, multifactor analysis of variance, randomized block, repeated measures, and related designs. PREREQUISITE(S): PSY 340, or one semester of undergraduate statistics.

**PSY 411 ADVANCED STATISTICS II (PREREQ(S): PSY 410)**

Multiple linear regression, analysis of covariance, and logistic regression.. PREREQUISITE(S): PSY 410

**PSY 412 ADVANCED STATISTICS III (PREREQ(S): PSY 411)****PSY 413 ANALYSIS OF LONGITUDINAL DATA**

Analysis of changes and time - dependent data.

**PSY 414 CATEGORICAL DATA ANALYSIS**

Analysis of contingency tables and count data logit, probit and loglinear models.

**PSY 416 METHODS IN QUALITATIVE RESEARCH**

Principles and techniques of research design in behavioral, social and clinical research; questionnaires, interview schedules, rating scales involving multivariable analysis. Application of parametric and nonparametric tests. Application of research findings to professional practice.

**PSY 418 MULTIVARIATE STATISTICAL ANALYSIS**

Multivariate regression, principal component, cluster analysis and multidimensional society. Canonical correlation, multivariate analysis of variance, linear discriminant function analysis.

**PSY 419 FACTOR ANALYSIS AND PATH MODELING**

Theoretical foundations, methods of analysis, and comparison of various factor analytic models. Structural equation and measurement models using the LISREL program.

**PSY 420 ADVANCED RESEARCH METHODOLOGY**

Design and analysis of basic and applied psychological research with an emphasis on statistical software.

**PSY 421 ADVANCED EXPERIMENTAL DESIGN**

**PSY 422 COMPUTING FOR THE BEHAVIORAL SCIENTIST**

An introduction to computer programming, simulation and computer-intensive methods in data analysis. PREREQUISITE(S):PSY 404, PSY 410, PSY 411.

**PSY 425 COGNITIVE PROCESSES**

**PSY 426 ADVANCED LANGUAGE SEMINAR: PSYCHOLOGY OF BILINGUALISM**

This course presents an introduction to how bilinguals produce and understand language by examining theoretical constructs and research in psycholinguistics. It also explores developmental and methodological issues in bilingualism research.

**PSY 427 SENSORY PROCESSES**

**PSY 430 ADVANCED SOCIAL PSYCHOLOGY**

Advanced study of social psychological methodology, ethics and deception, attitudes, altruism, aggression, and interpersonal processes and attraction.

**PSY 432 ATTITUDE ANALYSIS**

Theory and research in attitude formation and organization, communication and persuasion, resistance to persuasion, and measurement techniques.

**PSY 433 SOCIAL JUDGMENT**

Theory and research in judgment of social stimuli, perceiving and evaluating persons, and social comparison processes.

**PSY 434 SMALL GROUP BEHAVIOR**

Theory and research in goal formation, conformity, power and communication structures, cohesion, and task performance. The emphasis is on the behavior of persons within groups.

**PSY 435 PSYCHOLOGY OF INTERPERSONAL RELATIONSHIPS (CROSS-LISTED: PSY 317)**

Theory and research on selected aspects of close relationships. Cross-listed with PSY 317

**PSY 437 ADVANCED PERSONALITY**

Critical analysis of research in personality with emphasis on the development and testability of major constructs in contemporary research.

**PSY 439 ADVANCED DEVELOPMENTAL PSYCHOLOGY**

Current research and theories in child development relating to the preschool child, elementary school child, and adolescent. Emphasis on cognitive, language, and social/emotional development.

**PSY 440 PSYCHOLOGY OF WORK AND MOTIVATION**

Current research and theories in organizational psychology relating to motivation, job satisfaction, work attitudes, employee withdrawal, and counterproductivity.

**PSY 441 PSYCHOLOGY OF LEADERSHIP**

Current research and theories in organizational psychology relating to leadership, supervision, job performance, and managerial training. Emphasis is on theoretical development and empirical evaluation of constructs in contemporary research.

**PSY 442 PERSONNEL PSYCHOLOGY**

Major issues in the Human Resource area. Topics include job analysis, job evaluation, pay equity, benefits, incentive systems, and personnel selection methods, focusing on recruitment, biodata, references, testing, interviews.

**PSY 443 PSYCHOLOGY OF DESIGN (CROSS-LISTED AS PSY 383)**

(Cross-listed as PSY 383) This course helps students understand how theoretical principles of psychology can be applied to the design of human-centered organizations, environments and technologies. Prior familiarity with psychology and experimental design is strongly recommended.

**PSY 444 PERFORMANCE APPRAISAL**

Theory of criterion development, the evaluation process, and measurement in performance appraisal. Emphasis on design and development.

**PSY 445 ADVANCED TRAINING AND DEVELOPMENT IN ORGANIZATIONS**

In-depth exposure to issues related to training in industry and other organizations. Such topics as needs assessment, training program design, program evaluation, and relevant social and economic issues will be covered.

**PSY 446 PSYCHOLOGICAL THEORIES OF ORGANIZATIONS**

Theory and research in the psychology of organizations relating to organizational design, analysis, systems, processes and change.

**PSY 447 ORGANIZATIONAL CONSULTATION**

Applies behavioral science and managerial theories and methodologies to organizational consultation and change processes.

**PSY 448 CONCEPTS, METHODS, AND ETHICS FOR INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY**

The major concepts and techniques relevant to I/O psychology. Topics include psychometrics, regression, validity generalization, utility, legal issues, affirmative

action, and ethics.

**PSY 450 PSYCHOLOGICAL MEASUREMENT**

Logical and mathematical principles underlying test construction with emphasis on evaluating the reliability and validity of scores.

**PSY 451 APPLIED STATISTICAL PREDICTION**

Applications of statistics and psychological measurement to the problems of predicting human performance. Several computer programs will be used to analyze data.

**PSY 454 BEHAVIOR MODIFICATION**

Analysis of principles, practices and research related to learning theory and the modification of human behavior.

**PSY 469 EMOTIONS AND EMOTIONAL DEVELOPMENT**

**PSY 473 THE PSYCHOLOGY OF JUDGMENT AND DECISION- MAKING (CROSS-LISTED AS PSY 373)**

An introduction to research in judgment and choice behaviors. Judgment refers to how people evaluate information and make predictions. Choice concerns how people select a course of action among alternatives. Cross-listed with PSY 373.

**PSY 481 INDIVIDUAL INTELLIGENCE TESTING I (MATERIALS FEE)**

Theories of intelligence and cognitive development. Introduction to the administration of verbal and various nonverbal tests including the Stanford Binet, Wechsler Intelligence Scale for Children and Wechsler Adult Intelligence Scale and the clinical use of these instruments. Materials fee \$10.00.

**PSY 482 PERSONALITY ASSESSMENT**

Administration and scoring of the Rorschach and Thematic Aperception Test and other tests. Evaluation of tests and related areas of research and development.

**PSY 483 ADVANCED PSYCHODIAGNOSTICS**

Advanced study of projective techniques and other assessment methods, with emphasis on analysis, interpretation and integration of all pertinent clinical data, and report writing.

**PSY 484 BEHAVIORAL ASSESSMENT**

Behavioral observation and recording. Self-report measures. Physiological measurement. Evaluation of behavioral measures and areas of research.

**PSY 485 NEUROPSYCHOLOGICAL TESTING**

Introduction to theory and assessment techniques related to adult and child neurological functioning.

**PSY 486 ADVANCED PSYCHOPATHOLOGY**

Review of the major diagnostic categories as outlined by the current Diagnostic and Statistical Manual. Current issues in psychopathology and related research are reviewed.

**PSY 487 PSYCHOPATHOLOGY OF THE CHILD**

Deviant behavior in children: infancy through adolescence. Emphasis on psychodynamics and diagnostic issues.

**PSY 488 PRINCIPLES OF PSYCHOTHERAPY**

Analysis of theoretical approaches to psychotherapy.

**PSY 489 GROUP PSYCHOTHERAPY**

Principles, theories and techniques of in-group psychotherapy. Problems of selection of group members and evaluation of progress.

**PSY 491 TREATMENT METHODS WITH CHILDREN**

Consideration of a variety of treatment approaches used to help alleviate the psychological problems of children with emphasis on play psychotherapy.

**PSY 492 PRINCIPLES OF CONSULTATION**

The principles and dynamics involved in the various types of consultative relationships. Techniques of consultation with parents, teachers, agencies, physicians and others in regard to problems and deviancy, methods of management and treatment.

**PSY 493 CLINICAL COMMUNITY PSYCHOLOGY**

Advanced course which examines alternative service delivery models.

**PSY 495 EVALUATION AND RESEARCH IN COMMUNITY MENTAL HEALTH**

Examination of methodological approaches to assessing program and intervention effectiveness related to community psychology interventions.

**PSY 500 PROFESSIONAL ETHICS**

Two quarter hours.

**PSY 501 BMDP SEMINAR**

Introduction to the use of the BMDP statistical package. BMDP can be used in the analysis of a wide variety of social science data.

**PSY 510 BEHAVIORAL MEDICINE**

**PSY 511 HEALTH PSYCHOLOGY**

A survey of the psychological factors involved in health and illness. Also explores the psychological issues in prevention of illness, and psychological considerations in treatment.

**PSY 520 PRINCIPLES OF HUMAN DIVERSITY**

Considerations related to minority status and issues specific to diagnostics and interventions with minority populations.

**PSY 521 PSYCHOLOGY OF THE AFRICAN-AMERICAN CHILD (CROSS-LISTED AS PSY 346)**

Development and socialization of African-American child from infancy to adolescence. Emphasis on psychological and cultural factors which influence these processes. Understanding the child, family and the child, language and IQ, education and learning styles, and cultural identity are all emphasized. Cross-listed with PSY 346.

**PSY 550 SEMINAR IN TEACHING PSYCHOLOGY**

Non-Credit.

**PSY 551 SEMINAR IN EXPERIMENTAL PSYCHOLOGY**

**PSY 552 SEMINAR IN NEUROPSYCHOLOGY**

**PSY 553 SEMINAR IN PERSONALITY RESEARCH**

**PSY 554 SEMINAR IN COMPARATIVE PSYCHOLOGY (CROSS-LISTED AS PSY 378)**

Patterns of behavior shown by various animal species. Cross-listed with PSY 378.

**PSY 555 SOCIAL AND EMOTIONAL DEVELOPMENT (CROSS-LISTED AS PSY 370)**

Focus on development of emotions, social relationships, and social interaction. Both theoretical perspectives and research findings are presented and analyzed. Topics covered may include: primary emotions and their development, nonverbal communication of emotions, socialization within the family, friendship and peer relations, aggression, moral development, sex role development, and attachment. Cross-listed with PSY 370.

**PSY 556 SEMINAR IN SOCIAL PSYCHOLOGY**

**PSY 557 SEMINAR IN LEARNING AND COGNITIVE PROCESSES**

Constructive processes in cognitive psychology, such as constructive and reconstructive memory, language comprehension, problem-solving and reasoning, and creativity. Past student-selected topics include imagery, memory, hypnosis, the use of conditioning principles in communication, belief systems, and the use of metaphor in stories.

**PSY 558 SEMINAR IN ADVANCED STATISTICS (PREREQ(S): PSY 411 AND 420)**

**PSY 559 SEMINAR IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY**

Four quarter hours.

**PSY 560 SOCIAL COGNITION (CROSS-LISTED AS PSY 348)**

Theory and research dealing with the major aspects of social cognition and mental control, including social perception, stereotyping, memory and affect. Cross-listed with PSY 348.

**PSY 561 ADVANCED PSYCHOLOGY OF WOMEN (CROSS-LISTED AS MLS 478/WMS 470)**

A review of research and theory on women, including sexist biases in traditional research, feminist methodology, pedagogy and therapy, violence against women, gender differences in development, relationships, sexuality, and the interplay of gender, race and sexual orientation. Cross-listed with MLS 478 and WMS 470.

**PSY 562 SEMINAR IN FAMILY THERAPY (PREREQ(S): PSY 574)**

A review of systems theory and the assessment and treatment of families and couples. Four quarter hours. PREREQUISITE(S): PSY 574.

**PSY 563 MENTAL IMAGERY (CROSS-LISTED AS PSY 362)**

Theory, research and practical applications of mental imagery are considered in lecture/discussion/student-report format. Variety of imagery techniques will be reviewed which have been found useful in research and practice. Special attention devoted to the differences between subjective approaches (consciousness and vividness ratings) versus objective approaches (memory measures) of studying imagery. Cross-listed with PSY 362.

**PSY 564 SEMINAR IN CLINICAL RESEARCH (PREREQ(S): PSY 488)**

**PSY 565 ADVANCED CLINICAL SEMINAR**

**PSY 566 SEMINAR IN PSYCHOPATHOLOGY**

**PSY 567 SPECIAL TOPICS IN COMMUNITY PSYCHOLOGY**

Explores topics of current interest in the area of Community Psychology and related fields for advanced graduate students, with emphases on theory, research and intervention.

**PSY 568 SEMINAR IN COMMUNITY PSYCHOLOGY**

Analysis of theories of community and human behaviors from the standpoint of general systems principles. Four quarter hours.

**PSY 569 SEMINAR IN PROGRAM EVALUATION**

Analysis of major research programs dealing with social and mental health problems with emphasis on epidemiological and socio-clinical research methods. Four quarter hours.

**PSY 570 SEMINAR IN PSYCHOTHERAPY RESEARCH**

**PSY 572 PSYCHOBIOLOGY OF SOCIAL COGNITION**

Explores social cognition in the frame of evolutionary, neurophysiological, and developmental biology. Comparison of human with other animal social-cognitive characteristics will be examined. Neuropsychological data and developmental psychobiology will be studied.

**PSY 574 PRE-PRACTICUM IN CLINICAL PSYCHOLOGY**

May be repeated three times. No Credit.

**PSY 577 PRACTICUM IN CLINICAL ASSESSMENT**

Supervised experience in intake interviewing, psychological evaluation, and case conference presentation in a clinic, hospital or community agency setting. 0 Credit

**PSY 578 PRACTICUM IN CLINICAL PSYCHOLOGY**

Supervised experience in diagnostic assessment, intervention planning, psychotherapy and report writing through varied assignments to campus or community agencies. 0 Credit

**PSY 579 PRACTICUM IN CHILD CLINICAL PROCEDURES**

Supervised practice in the diagnosis and treatment process of the problems of children and adolescents. May be repeated twice. 0 Credit

**PSY 582 ADVANCED PRACTICUM-CLINICAL PSYCHOLOGY**

0 Credit

**PSY 583 PRACTICUM IN COMMUNITY MENTAL HEALTH**

0 Credit

**PSY 584 PRACTICUM IN SPECIAL AREAS IN PSYCHOLOGY**

0 Credit

**PSY 585 FIELD WORK IN CLINICAL PSYCHOLOGY**

An applied experience which integrates skills of consultation, program development, advocacy, and program evaluation. Four quarter hours PREREQUISITE(S):consent of instructor.

**PSY 585 FIELD WORK IN CLINICAL PSYCHOLOGY**

An applied experience which integrates skills of consultation, program development, advocacy, and program evaluation. Four quarter hours PREREQUISITE(S):consent of instructor.

**PSY 586 PRACTICUM IN APPLIED INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY**

Supervised experience in the application of I/O Psychology and technical report writing. Four quarter hours

**PSY 587 PRACTICUM IN ADVANCED RESEARCH IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY**

Supervised experience in I/O research and the preparation of research results for publication. Four quarter hours

**PSY 588 TOPICS IN EXPERIMENTAL PSYCHOLOGY I**

Consideration of topics of current interest to the faculty and advanced graduate students. Introduction to research methods and data analysis. Four quarter hours

**PSY 589 TOPICS IN EXPERIMENTAL PSYCHOLOGY II**

TOPICS IN EXPERIMENTAL PSYCHOLOGY II

**PSY 590 THESIS SEMINAR**

Non-Credit.

**PSY 591 COLLOQUIUM IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY**

Required of all I/O students. Register in Fall term; continues throughout the year. Presentations on research and other topics by students, faculty, and invited speakers. Non-credit

**PSY 592 DIRECTED RESEARCH**

A-Experimental. B-Learning. C-Social. D-Physiological. E-Personality. F-Psychopathology. G-Community Mental Health. H-Perception. I-Psychotherapy. J-Developmental. K-Industrial/Organizational. The course involves individual projects (non-thesis research) under the supervision of a faculty member. (Arranged by consultation with the chair). One to four quarter hours

**PSY 594 PSYCHOLOGICAL RESEARCH**

A course involving intensive readings in contemporary psychological literature. (Arranged by prior consultation with the chair) . One to four quarter hours

**PSY 595 COLLOQUIUM**

Required of all graduate students each quarter until graduation. Lectures by psychologists and members of the faculty. Non-credit

**PSY 596 INTERNSHIP IN CLINICAL PSYCHOLOGY**

(Arranged with consent of director of clinical training). Non-credit

**PSY 597 MASTER'S THESIS RESEARCH**

Original investigation of a specific research problem. Four hours required. One to four quarter hours.

**PSY 598 DISSERTATION RESEARCH SEMINAR**

Seminar for doctoral candidates working on their dissertation. Students will develop their proposals or write their results and discussion sections, depending on status of their dissertation research. Students will also review and critique work of other

students. Permission of instructor required. 0 credit.

**PSY 599 DISSERTATION RESEARCH**

Twelve hours total required. One to twelve quarter hours.

**PSY 610 GRADUATE STATISTICS**

GRADUATE STATISTICS

**PSY 620 GRADUATE RESEARCH METHODS**

**PSY 634 ADOLESCENT DEVELOPMENT**

**PSY 639 ADVANCED DEVELOPMENTAL PSYCHOLOGY**

**PSY 645 ORGANIZATIONAL DEVELOPMENT**

**PSY 646 NEEDS ANALYSIS**

**PSY 647 ORGANIZATIONAL CONSULTING: DIAGNOSTICS**

**PSY 648 ORGANIZATIONAL POLITICS AND SAVVY**

**PSY 649 TESTING: MEASUREMENT, APPLICATION, AND LEGAL CONSIDERATIONS**

**PSY 650 CREATIVITY AND DECISION MAKING**

**PSY 653 ABNORMAL PSYCHOLOGY**

**PSY 663 ALCOHOLISM, DRUG ADDICTION, AND RECOVERY**

**PSY 667 BEHAVIOR ANALYSIS: MEASUREMENT**

**PSY 668 BEHAVIOR ANALYSIS: METHODS OF CHANGE**

**PSY 669 APPLICATIONS OF BEHAVIOR ANALYSIS**

**PSY 680 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY (CROSS-LISTED AS PSY 380)**

Application of theories and methods of psychology to the study of human behavior in business, industry, and other organizations. Cross-listed with PSY 380.

**PSY 701 CANDIDACY CONTINUATION (PREREQUISITE:ADMISSION TO CANDIDACY)**

Students admitted to candidacy for the doctoral degree who have completed all course and dissertation registration requirements are required to be registered each quarter of the academic year until the dissertation and final examination have been completed. Non-credit. \$40.00 per quarter. PREREQUISITE(S):admission to candidacy.

**PSY 702 NON-RESIDENT CANDIDACY CONTINUATION**

## **SOCIAL AND CULTURAL STUDIES IN EDUCATION HUMAN DEVELOPMENT**

### **SCG 25 BASIC TECHNOLOGY LITERACY**

### **SCG 400 EDUCATIONAL RESEARCH DESIGN & STATISTICS**

### **SCG 401 ADVANCED DEVELOPMENTAL PSYCHOLOGY**

Current research and theories in human development relating to motivation, personality, learning and socialization. Case studies and an analysis of various developmental problems.

### **SCG 402 PSYCHOLOGY OF LEARNING**

Study of the learning-teaching process with specific emphasis on the person as a learner, human capacity and potential, learning theories and materials, motivation, concept formation, and behavior.

### **SCG 403 HUMAN DEVELOPMENT AND LEARNING: ELEMENTARY**

This course will focus on the developmental processes of school-age children, kindergarten through middle school, by beginning with the study of the young child's social, emotional, cognitive, and physical growth and change. The theoretical and observational study of child development will be framed by an examination of culture, gender, and socio-economic factors as they inform assumptions about normative processes. The relationship between development and learning in a social context will be examined with particular attention to children's developing concepts in math, science, and language arts. Attention will also be given to the role of teachers and schools and other institutions in fostering the healthy development and learning of young people.

### **SCG 404 HUMAN DEVELOPMENT AND LEARNING: THE EARLY YEARS (COREQUISITE(S): T&L 400)**

This course will focus on the developmental process of children from birth to age 8 by beginning with the study of the young child's social, emotional, cognitive and physical growth and change. The theoretical and observational study of child development will be framed by an examination of culture, gender, and socio-economic factors as they inform assumptions about normative processes. The relationship between development and learning in a social context will be examined with particular attention to children's developing cognitive concepts. Attention will also be given to the role of teachers, schools, and other institutions in fostering the healthy development and learning of young children. COREQUISITE(S): T&L 400.

### **SCG 405 HISTORY AND PHILOSOPHY OF BILINGUAL EDUCATION**

### **SCG 406 HUMAN DEVELOPMENT AND LEARNING:SECONDARY**

This course focuses on the multiple factors that contribute to the period of adolescence, bridging childhood and adulthood. Particular attention is given to the intrapsychic, interpersonal, biological, and socio-cultural processes that are mediated by the meanings that youth give to their identity vis a vis race, class, and gender formations within the broader society. Students will engage in interdisciplinary study of theories to examine the implications for teaching and learning processes and the role of educational institutions in fostering the healthy development of youth in society. Forms of inquiry will include students' examination of their own lives and assumptions, critique of theory, and observations of young people in a variety of contexts.

**SCG 407 NON-DISCRIMINATORY TESTS-SOMPA SYSTEM**

Administration and interpretation of diagnostic test using a pluralistic model to make testing procedures more responsive to cultural pluralism. (Case study approach).

**SCG 408 EDUCATION AND SOCIETY**

A study of social forces that impinge upon the educational enterprise and analysis of the relationship to major social problems in urban education with emphasis on their social, economic, political, historical and philosophical dimensions.

**SCG 409 SOCIOLOGY OF EDUCATION**

This course focuses on the relationship between school structures and culture, social relations of race, ethnicity, class, and gender, and ideologies organizing education in the United States. Students will explore a range of theories in the sociology of education and explore linkages between school structures and processes and broader social forces. Readings may examine the political economy of schooling, inequalities in educational practices, and student and teacher identities shaped by schools and the larger society.

**SCG 410 INTRODUCTION TO RESEARCH: PURPOSES, ISSUES, AND METHODOLOGIES**

(formerly CUG 400) This course will examine the basic questions, issues and theoretical frameworks central to the purpose, conceptualization, conduct, writing, reading and the use of educational research as a means for informing educational theory, practice and policy. Students will be exposed to the multiple frameworks which inform education research, the various methodologies employed in collecting and analyzing data and will examine the advantages, limitations and values implicit in conducting and evaluating research.

**SCG 411 PHILOSOPHY OF EDUCATION**

This course examines the relationship of education to the moral and ethical dilemmas or predicaments of the human condition. It will entail issues related to the nature of education's responsiveness, or lack thereof, to the concerns of the human condition: for example, human alienation, suffering, success and failure, caring, freedom, responsibility, liberation and agency. Special attention will be given to how these concerns influence or have social, cultural and political implications for how teachers address them within the teaching and learning process.

**SCG 419 FIELD EXPERIENCE: BRITISH INFANT SCHOOLS****SCG 439 PHILOSOPHY AND PSYCHOLOGY OF YOUTH AND MIDDLE LEVEL EDUCATION**

This course examines foundational and contemporary theories of youth and adolescent development. It considers how these theoretical ideas relate to contemporary questions of youth and middle level education. The course explores the historical invention of adolescence, changing ideas about the meaning of childhood, as well as some of the broader social, economic, political, and cultural implications of these changing ideas. This course seeks to develop in prospective educators a broader capacity to theorize about youth and schooling, and, hence, to act critically and reflectively in multiple contexts in which youth learn.

**SCG 450 DYNAMICS OF AFRICAN-AMERICAN CULTURE (CROSS-LISTED AS SOC 490)**

(Cross-listed as SOC 490) This course is intended for those interested in cultural and human relations in order that they may examine the contributions of the black person to American Culture; gain a functional understanding of the social, economic and political development of the black person on America itself.

**SCG 461 USE OF TESTS IN APPRAISAL & DEVELOPMENT**

Detailed analysis of intelligence, aptitude, personality and achievements tests used with groups and individuals. The course is intended to familiarize students with various appraisal procedures and their utilization. Attention is given to the development of the institutional testing program.

**SCG 527 COMPARATIVE EDUCATION**

Studies of school systems outside the United States, their methods, curriculum and achievements.

**SCG 588 INDEPENDENT STUDY IN SOCIAL AND CULTURAL FOUNDATIONS IN EDUCATION**

Independent Study in Social and Cultural Foundations in Education. PREREQUISITE: Permission of instructor, program chair and associate dean.

**SCG 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter. Non-Credit Course.

**SCG 602 THE IRISH EDUCATIONAL SYSTEM**

**SCG 603 PROSEMINAR: CULTURE AND EDUCATION**

This course focuses on the relationship between education, pedagogy, and theories of culture framed by a concern for social justice. Topics may include the pedagogical and political dimensions of popular culture, questions of knowledge production, the relationship between knowledge and power of the political economy of culture production.

**SCG 604 PROSEMINAR: IDENTITY CONSTRUCTIONS AND NEGOTIATIONS**

This course examines identity construction in educational contexts. Drawing on theoretical frameworks in the sociology of education, postmodernist, feminist and critical theories of education, and cultural studies literature, this course will explore identity as complex and multifaceted. It explores relations of class, race, ethnicity, gender, and sexuality and the implications of sociality for contemporary education.

**SCG 605 CULTURAL PLURALISM AND THE SCHOOLS: HISTORICAL/SOCIOLOGICAL FOUNDATIONS**

**SCG 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases. In other words, students will need to be able to ask and answer such questions as "What is known about? What are major issues and themes?"

**SCG 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "how theories work."

**SCG 608 PROSEMINAR: IDEOLOGY, POWER AND POLITICS**

This course examines how power operates pedagogically and how domination and resistance get shaped in education. It considers power relations in society and how these power relations enter into educational discourse and practice. It also explores ways in which power produces various educational practices and ways in which power gets psychically configured. Students will examine major theories of power, analyze race, ethnicity, gender, class and sexuality as systems of power and consider the educational implications of such an analysis.

**SCG 610 INTRODUCTION TO RESEARCH METHODS**

(Special section of SCG 410, Introduction to Research: Purposes, Issues and Methodologies.) This course will examine the basic questions, issues and theoretical frameworks central to the purpose, conceptualization, conduct, writing, reading and the use of educational research as a means for informing educational theory, practice and policy. Students will be exposed to the multiple frameworks which inform educational research, the various methodologies employed in collecting and analyzing data and will examine the advantages, limitations and values implicit in conducting and evaluating research. Students will also begin exploring possible thesis topics as they begin defining their particular research purpose, methodology and issues.

**SCG 611 PROSEMINAR: PHILOSOPHICAL STUDIES IN EDUCATION AND CULTURE**

Examines both traditional philosophical questions in education from such perspectives as African, feminist, Latino/Hispanic thought and distinctively African, feminist, and Latino/Hispanic issues in a philosophical way. Some of the perspectives are, for example, the necessary conditions of a humanistic education, the relation between theory and practice, the relationship between individual and institutional/society, the role of education in the struggle for social justice, the role of aesthetics in human development and projects of political emancipation, the dialectics of history and experience in the development of liberatory ideas, and the moral and ethical dimensions of education.

**SCG 635 ADVANCED QUALITATIVE RESEARCH METHODOLOGIES**

This course extends the fundamental principles of educational research first introduced in SCG 610. It provides students with theoretical and practical preparation in conceptual issues in qualitative research and research design. Students will explore a variety of methodological approaches to interpretive inquiry in social science research, research design, methods of data collection, research ethics, and critical analysis. This course will prepare students to undertake the capstone master's thesis requirement.

**SCG 636 THESIS RESEARCH**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit.

### **SCG 701 ETHICS AND EDUCATION**

The study of values, morality and justice pose formidable challenges for education and educators. This course will critically deconstruct the normalization of ethical inquiry and ethical decisions, examining the influences of cultural domination on the creation, development, and persistence of particular ethical discourse and practice. Different themes -- such as, prayer in schools, violence, discipline, sexuality education, school governance, privatization, grades, testing and tracking, equality of opportunity, parents, teachers, and students -- will be posed as problems or cases to be addressed and resolved through ethical deliberation and critical self reflection. The course will ground its study in the daily activities of schools in order to show that practical assumptions and practices are grounded in a multiplicity of dynamics of culture. The course will highlight how ethics as a cultural construct need not violate our attempts or aspirations to forge broader agreement regarding ethical and moral decisions in ways that engender a healthy public life in our schools and communities.

### **SCG 711 CULTURE, POWER AND EDUCATION**

The purpose of this course is to facilitate the development of a critical understanding of the larger concept of culture within the notion of multiculturalism. This begins by recognizing that educational institutions such as schools and universities are cultural institutions engaged in the making of culture. While the focus of multiculturalism is about theorizing difference in relation to the particular cultural processes that go on in schools and universities, its focus does not address how educational institutions are shaped by broader cultural dynamics that are outside of the immediate context of educational institutions. It is in this context that doctoral students will examine how cultural processes are intimately connected with social relations, especially with class relations, with gender and ethnic divisions, and with the racial restructuring of social relations. They will also explore how culture involves power, which serves to produce inequalities in the abilities of individuals and social groups to define and realize their needs. In addition, culture will be analyzed as a site of social difference and struggle. The primary focus of the course will be to explore how the larger political economy, popular culture and politics of a society effect the dynamics of how culture is constructed within social life. Doctoral students from within this framework will analyze what we mean by culture; how it is produced and consumed; the relationship of everyday life are represented by dominant cultural and sub-cultural groups and institutions. It is in this context that the course also examines how relations of power, knowledge, social identity and pedagogy within educational institutions are conditioned and shaped by the educational practice that shapes and impinges upon the internal workings and purposes of educational institutions.

### **SCG 721 HUMAN DEVELOPMENT AND THE EDUCATIONAL PROCESS**

This course will examine the process of human development and learning through the ages by critically examining cross-cultural research and developmental theories designed to describe and interpret the physical, social, emotional, intellectual, and psychological processes involved. Emphasis will be placed on the range of individual, familial, environmental, and cultural factors that may enhance or inhibit human growth and development, and on the critical role that human relationships play in the lifelong interactive processes of learning and growth. Considerable attention will be paid to the historical role of power, culture, class, gender and capability in defining and interpreting certain behaviors as indicators of normative development. These normative indicators will be critiqued with regard to underlying cultural assumptions and values, their function in fostering and maintaining current social, educational and political relations, and their contribution to the current crises in urban education and the development of children and youth. Class participants will examine their perspective on human development and learning and explore the socio-cultural and historical bases

which contribute to their underlying values and assumptions. Through multifaceted inquiry utilizing self-reflection, case studies, theoretical analyses, and child assessment and observation, participants will consider the implications for their work as educational leaders in approaching current challenges with students, parents, community, and teachers and in creating schools that will foster societal change to support the healthy development of children and youth.

**SCG 725 SEMINAR: FRAMEWORKS OF INQUIRY IN EDUCATIONAL RESEARCH**

This course offers doctoral students a general introduction to theory and practice in educational research. First, it is designed to help students develop an understanding of the assumptions that underlie multiple approaches to knowledge construction and the conduct of inquiry in education. Students will explore theoretical and methodological issues and will develop skills necessary for critical analysis of multiple educational frameworks. Emphasis will be placed on the structural organization of the dissertation proposal.

**SCG 735 ADVANCED QUANTITATIVE RESEARCH DESIGN AND STATISTICS I**

(8 credits) This course is designed to provide doctoral level students with theoretical and practical preparation in quantitative research design: instrumentation; data collection; statistical analysis; ethics and politics of the conduct of research; and development of analytical skills for critiquing research. Students will conduct a pilot study on an issue of interest using a quantitative research design. Each student will be required to generate a dissertation proposal and to defend the proposal before a class of peers.

**SCG 739 DISCIPLINED INQUIRY SEMINAR I**

Disciplined Inquiry Seminar I. In contrast to the doctoral core courses - which address inquiry processes and relationships between theory and practice within a field - these seminars address practical problems in the complex, interrelated and dynamic manner in which they present themselves. The connections between areas of study and the way these connections present themselves. The connections between areas of study and the way these connections inform, or are informed by, practice are addressed in an interconnected and developmental manner. The learner's inquiries will be the agenda, with appropriate literature infused in a timely manner as needs to expand thinking are recognized. Problems addressed will arise from three areas of students' experience: 1) the everyday experiences they bring with them to the seminar; 2) the queries they experience when relating course work and practice; and 3) the more direct inquiries associated with conducting research. (Not attached to specific areas of study in the program or to clinical hours.)

**SCG 745 ADVANCED QUALITATIVE RESEARCH DESIGN I**

(8 credits) This course is designed to provide doctoral level students with theoretical and practical preparation in qualitative methods of research in education. Students will be introduced to a range of approaches to qualitative inquiry that introduced to a range of approaches to qualitative inquiry that include: Historical; Philosophical; Ethnographic (realist, critical); Action Research; Feminist. Students will receive instruction in qualitative research design; data collection and analysis; relevant issues (reliability, validity, generalizability, subjectivity); ethics and politics of the conduct of research, critical analytical skills for review and critique of qualitative research. Students will conduct a pilot study on an issue of interest using a qualitative research design. Each student will be required to generate a dissertation proposal and to defend the proposal before a class of peers.

**SCG 749 DISCIPLINED INQUIRY SEMINAR II**

Disciplined Inquiry Seminar II. In contrast to the doctoral core courses - which address inquiry processes and relationships between theory and practice within a field - these seminars address practical problems in the complex, interrelated and dynamic manner in which they present themselves. The connections between areas of study and the way these present themselves. The connections between areas of study and the way these connections inform, or are informed by, practice are addressed in an interconnected and developmental manner. The learner's inquiries will be the agenda, with appropriate literature infused in a timely manner as needs to expand thinking are recognized. Problems addressed will arise from three areas of students' experience: 1) the everyday experiences they bring with them to the seminar; 2) the queries they experience when relating course work and practice; and 3) the more direct inquiries associated with conducting research. (Not attached to specific areas of study in the program or to clinical hours.)

**SCG 751 CURRICULUM FOR HUMAN AND COMMUNITY DEVELOPMENT****SCG 755 ADVANCED QUANTITATIVE RESEARCH DESIGN AND STATISTICS II****SCG 759 DISCIPLINED INQUIRY SEMINAR III**

Disciplined Inquiry Seminar III. In contrast to the doctoral core courses - which address inquiry processes and relationships between theory and practice within a field - these seminars address practical problems in the complex, interrelated and dynamic manner in which they present themselves. The connections between areas of study and the way these present themselves. The connections between areas of study and the way these connections inform, or are informed by, practice are addressed in an interconnected and developmental manner. The learner's inquiries will be the agenda, with appropriate literature infused in a timely manner as needs to expand thinking are recognized. Problems addressed will arise from three areas of students' experience: 1) the everyday experiences they bring with them to the seminar; 2) the queries they experience when relating course work and practice; and 3) the more direct inquiries associated with conducting research. (Not attached to specific areas of study in the program or to clinical hours.)

**SCG 765 ADVANCED QUALITATIVE RESEARCH DESIGN II**

Advanced Qualitative Research Design II

**SCG 769 DISCIPLINED INQUIRY SEMINAR IV**

Disciplined Inquiry Sem IV. In contrast to the doctoral core courses - which address inquiry processes and relationships between theory and practice within a field - these seminars address practical problems in the complex, interrelated and dynamic manner in which they present themselves. The connections between areas of study and the way these present themselves. The connections between areas of study and the way these connections inform, or are informed by, practice are addressed in an interconnected and developmental manner. The learner's inquiries will be the agenda, with appropriate literature infused in a timely manner as needs to expand thinking are recognized. Problems addressed will arise from three areas of students' experience: 1) the everyday experiences they bring with them to the seminar; 2) the queries they experience when relating course work and practice; and 3) the more direct inquiries associated with conducting research. (Not attached to specific areas of study in the program or to clinical hours.)

**SCG 775 FRAMEWORKS OF INQUIRY IN EDUCATIONAL RESEARCH I**

This course offers doctoral students a general introduction to theory and practice in educational research. First, it is designed to help students develop an understanding of

the assumptions that underlie multiple approaches to knowledge construction and the conduct of inquiry in education. Students will explore theoretical and methodological issues and will develop skills necessary for critical analysis of multiple educational frameworks.

**SCG 779 DISCIPLINED INQUIRY SEMINAR: LITERATURE REVIEW/PROPOSAL**

A practical approach to the complex, interrelated and dynamic development of the literature review for the dissertation proposal. The learner's inquiries will be the agenda with appropriate literature infused. Students will produce a substantive draft for the proposed dissertation research.

**SCG 785 FRAMEWORKS OF INQUIRY IN EDUCATIONAL RESEARCH II**

Students will critically analyze research from multiple educational frameworks. Emphasis will be placed on the structural organization of the dissertation proposal. Pilot studies or action research projects will be encouraged.

**SCG 789 DISCIPLINED INQUIRY SEMINAR:BEGINNING RESEARCH**

A student focused discussion of the practical aspects of the research process. Students will be asked to bring research experiences to the seminar. Problem solving the design issues will be a feature.

**SCG 895 ADVANCED DOCTORAL RESEARCH SEMINAR: QUANTITATIVE**

This course is designed to help doctorate students through the process of conducting their dissertation research. Students should have completed a proposal draft and selected a dissertation committee. Course emphasis will be on development of survey instrumentation, data collection and analysis. Several multivariate approaches such as multiple regression, repeated measures ANOVA, and MANOVA will be discussed in detail.

## **SCIENTIFIC DATA ANALYSIS AND VISUALIZATION**

**SDV 410 TOPICS FOR TEACHERS**

Selected topics in science and science education.

## **SOFTWARE ENGINEERING**

**SE 420 OBJECT-ORIENTED DESIGN**

Techniques and guidelines for designing large-scale software systems in C++ that aim to create highly maintainable, and highly testable software architectures. Techniques discussed include: logical and physical organization and levelization, incrementations of classes. Using templates and C++ Standard Templates Library. PREREQUISITE(S): CSC 212 or CSC 224.

**SE 425 PRINCIPLES AND PRACTICES OF SOFTWARE ENGINEERING**

This course introduces students to the principles and methods of software engineering. Topics covered include software methodology, software requirements and specifications,

software design, testing and validation, software evolution, and project management. Students will also be exposed to a number of popular tools used extensively in industry to support software engineering activities. PREREQUISITE(S): PL2 or PLP

#### **SE 427 SOFTWARE QUALITY MANAGEMENT**

Quality management principles, tools, and methods applied to the software development process. Selected techniques for continuous and incremental improvements in product and process such as defect analysis, control charts, risk assessment, quality control, quality improvement programs, quality function deployment, the capability maturity model, cleanroom engineering, and benchmarking. PREREQUISITE(S): IT 223 or consent.

#### **SE 430 OBJECT ORIENTED MODELING**

Object-oriented modeling techniques for analysis and design. Emphasis on one approach and a survey of several alternative approaches, for example, Codd and Yourdon, Booch, Rumbaugh, and Shlaer and Mellor. Relationship between these modeling techniques and the features of object-oriented languages including C++. Team project. PREREQUISITE(S): CSC 212 or CSC 224.

#### **SE 431 FORMAL SOFTWARE SPECIFICATION AND DEVELOPMENT I**

This course will focus on practical applications of formal software specification and design techniques. Topics include a survey of formal specification approaches and languages, model-oriented specifications, design refinement, and supporting tools for formal software development. PREREQUISITE(S): CSC 383

#### **SE 433 SOFTWARE TESTING**

Software testing strategies. Designing test plans and test cases. Design reviews, walkthroughs, and inspections. Configuration management. PREREQUISITE(S): CSC 383

#### **SE 450 OBJECT-ORIENTED SOFTWARE DEVELOPMENT**

Principle, techniques and tools of object-oriented modeling, design, implementation, and testing of large-scale software systems. Topics include design patterns, application frameworks, architectural design, and the applications in the software development process to improve the extensibility, maintainability, and reliability of software systems. PREREQUISITE(S): CSC 383

#### **SE 452 OBJECT-ORIENTED ENTERPRISE COMPUTING**

This course focuses on applying object-oriented techniques in the design and development of software systems for enterprise applications. Topics include component architecture, such as Java Beans and Enterprise Java Beans, GUI components, such as Swing, database connectivity and object repositories, server application integration using technologies such as servlets, Java Server Pages, JDBC and RMI, security and internationalization. PREREQUISITE(S): CSC 212 or CSC 224.

#### **SE 465 SOFTWARE ENGINEERING PRINCIPLES**

Survey of fundamental concepts and principles in software engineering. Requirements analysis and software specification, requirements validation and prototyping, and formal specifications. Software design. Software testing. Software project measurements and management. Social issues and ethics. Students will apply these software engineering concepts and principles to a common problem domain throughout the course. This course is intended as a service course for non-SE students. Prerequisite(s): CSC 212 or CSC 224.

**SE 466 SOFTWARE ENGINEERING PROJECTS**

Emphasize on team work, application of development and management techniques and use of CASE tools. The projects involve requirements analysis, requirements validation and inspection, object-oriented design, implementation, testing, integration, demonstration. PREREQUISITE(S): SE 430 or consent.

**SE 468 SOFTWARE MEASUREMENT/PROJECT ESTIMATION**

Software metrics. Productivity, effort and defect models. Software cost estimation. PREREQUISITE(S): CSC 423 and (SE430 or SE450).

**SE 469 SOFTWARE SAFETY**

Managing safety, the safety process, hazard analysis models and techniques, designing for safety, verification of safety. PREREQUISITE(S): SE 430 or consent.

**SE 470 SOFTWARE DEVELOPMENT PROCESSES**

This course will study recent developments in software engineering processes that aim to improve software quality and estimation of development cost and schedule. It will focus on the Unified Software Development Process, along with discussion on other software development processes including: eXtreme Programming (XP), Personal Software Process (PSP), Team Software Process (TSP), and Capability Maturity Model (CMM). PREREQUISITE(S): SE 430.

**SE 472 PERSONAL SOFTWARE PROCESS**

Software engineering discipline is taught through a scaled down version of industrial software process designed for small-scale development, at the level of an individual. The student proceeds through a progressively more structured sequence of software development processes that provide a sound foundation for large-scale development. Topics include data collection and analysis, planning, estimating the accuracy of plans, and tracking performance against these plans. In addition, students will learn and perform defect management, design and code reviews, design templates and process analysis. This not only provides the student with a solid understanding of the concepts, but also provides then an analysis of their own performance so they can understand their strengths and pinpoint areas where they should try to improve. The students can use the tools and techniques learned in this course to continue their personal improvement throughout their career.  
Prerequisites: IT 223 and SE 450.

**SE 473 SECURITY ARCHITECTURE I (PREREQUISITE(S): CSC 309, CSC 343, CSC 390, (DS 420 or SE 550) and SE 450.)**

This course focuses on the design and development of software for secure applications. Students will analyze and secure an existing application. Topics include: user authentication mechanisms; practical use of symmetric-key and asymmetric-key ciphers for ensuring secrecy and integrity; key distribution and management; cryptography, authentication, and authorization APIs; Kerberos. PREREQUISITE(S): C++ and CSC 373 and CSC 390 and (DS 420 or SE 550 or TDC 561) and SE 450

**SE 477 SOFTWARE AND SYSTEMS PROJECT MANAGEMENT**

Planning, controlling, organizing, staffing and directing software development activities or information systems projects. Theories, techniques and tools for scheduling, feasibility study, cost-benefit analysis. Measurement and evaluation of quality and productivity. PREREQUISITE(S): SE 430 or consent of instructor.

**SE 480 SOFTWARE ARCHITECTURE**

Software architecture is a critical aspect of complex software systems. A system's architectural design is concerned with describing its decomposition into computational

elements and their interactions. Architectural design tasks involve system decomposition; global control structures; protocols for communication, synchronization, data access; physical distribution of components; performance tuning; defining evolution paths; and selecting design alternatives. Major issues addressed include: architectural description, formal underpinnings, design guidance, domain-specific architecture, tools and environments. PREREQUISITE(S): SE 450.

#### **SE 482 REQUIREMENTS ENGINEERING**

Requirements Engineering (RE) plays a critical role in the software development process. This course will introduce related vocabulary, concepts, and techniques, and will examine the role of RE in software and systems engineering. The course will cover topics related to eliciting, validating, negotiating, analyzing, specifying, and managing requirements. Popular RE tools will also be introduced. Prerequisite: SE430 or SE450.

#### **SE 491 SOFTWARE ENGINEERING STUDIO**

Students will work in small teams to develop realistic software systems in a master-apprentice environment. The instructor will serve as a master/mentor/project leader. Students will apply knowledge and skills they have learned in previous course in solving real world problems. The projects may last more than a quarter. Students must register for SE 692 Software Engineering Studio Continuation in each subsequent quarter. PREREQUISITE(S): SE 450.

#### **SE 529 SOFTWARE RISK MANAGEMENT**

Identification, estimation, evaluation, planning, controlling, and monitoring of risk involved in the development, maintenance, operation and evolution of systems. PREREQUISITE(S): IT 223 and SE 430 or consent.

#### **SE 531 FORMAL SOFTWARE SPECIFICATIONS AND DEVELOPMENT II (PREREQUISITE: SE 431)**

Techniques for specifying software requirements using formal language. Model-base and algebraic formal specifications. Cleanroom software development. Application of formal methods in real software development projects. PREREQUISITE(S): SE 431.

#### **SE 533 SOFTWARE VALIDATION AND VERIFICATION**

Techniques, methods and tools for software inspection and testing. Theory and applications of formal verification of programs. Techniques and tools for automated analysis of programs. PREREQUISITE(S): SE 450.

#### **SE 540 SOFTWARE DEVELOPMENT FOR MOBILE AND WIRELESS SYSTEMS**

This course will focus on the unique aspects, tool, techniques of developing software applications for mobile and wireless systems, such as personal digital assistant (PDA) devices and mobile phones. Topics include user interface design for small screens, memory management for low-memory devices, efficient programming techniques for limited processors, data synchronization for mobile databases as well as wireless programming with in environments such as WAP, I-mode and Palm OS web Clipping. PREREQUISITE(S): SE 450 and either C or C++ programming experience.

#### **SE 542 SOFTWARE DEVELOPMENT FOR LIMITED AND EMBEDDED DEVICES**

This course will focus on the unique aspects, tools, and techniques of developing software applications for limited and embedded devices, such as set-top boxes and smart cards. PREREQUISITE(S): SE 450.

#### **SE 546 SOFTWARE ARCHITECTURE AND DESIGN FOR DESKTOP APPLICATIONS**

This course will introduce students to architecture, design and implementation issues for developing GUI-based desktop application. The goal is to understand the engineering

aspect of user interface development -- that is the basic software architectures and designs that govern the development of graphical user applications including patterns like the Model-View-Controller and its derivatives, event-driven design, as well as addressing concurrency, performance, caching, and software packaging and distribution issues. The course will also provide an in depth exposure to the toolkits available in Java. Examples include JFC/Swing, JMF, JAF. Prerequisite(s): SE450.

#### **SE 547 FOUNDATIONS OF COMPUTER SECURITY**

This course provides an overview of foundational techniques in the specification and verification of computer systems in the presence of malicious attackers. Topics may include: formal models of interaction, attacker models, robust safety properties such as confidentiality and authenticity, information flow properties such as noninterference, and tools such as model checkers, type checkers and theorem provers.

PREREQUISITE(S): CSC 390 and CSC 416.

#### **SE 550 DISTRIBUTED SOFTWARE DEVELOPMENT**

Fundamentals and techniques of developing distributed object-oriented applications, using a patterns-based approach. Concepts covered include: networks, client-server architectures, dataflow networks, sockets, message-passing systems, serialization and remote method invocation. PREREQUISITE(S): SE 450 and CSC 416.

#### **SE 552 CONCURRENT SOFTWARE DEVELOPMENT**

Fundamentals and techniques of developing concurrent object-oriented applications, using a patterns-based approach. Concepts covered include: threads, synchronization and object locking, thread blocking and deadlock, safety and liveness, state-dependent action and concurrency control. PREREQUISITE(S): SE 450 and CSC 416.

#### **SE 554 ENTERPRISE COMPONENT ARCHITECTURE**

This course will focus on object-oriented component architectures for enterprise applications. Topics include: Enterprise Java Beans (EJB), Java Naming and Directory Interfaces (JNDI), Java Mail and Messaging Services. PREREQUISITE(S): SE 452.

#### **SE 558 SOFTWARE METHODOLOGIES**

Recently developed techniques for software requirements analysis, specification, and design. PREREQUISITE(S): SE 430 or consent.

#### **SE 560 STRUCTURED DOCUMENT INTERCHANGE AND PROCESSING**

Document and data interchange among different applications is an extremely important aspect of software application development. This course will focus on emerging technologies associated with the Extensible Markup Language (XML), such as the Document Object Model (DOM), the Simple API for XML (SAX), the XML Stylesheet Language (XSL) and Transformation Language (XSLT), and XML Schema. Applications of these technologies will be discussed in conjunction with tools and techniques for parsing, transforming, and manipulating documents. PREREQUISITE(S): SE 450 and CSC 416.

#### **SE 567 SOFTWARE RELIABILITY**

The practical application and theory of software reliability models. Classification and comparison of software reliability models. Parametric estimation. PREREQUISITE(S): CSC 423 or SE 427 or SE 468 or consent of instructor.

#### **SE 570 DESIGN AND ARCHITECTURE OF SECURE SOFTWARE SYSTEMS**

Design and construction of secure software systems, with an emphasis upon the security mechanisms available in modern programming languages and runtime environments. Topics include APIs for cryptographic techniques and key management;

security mechanisms in modern runtime environments, e.g., code signing, code verification, access control, and security policies; design patterns for secure software systems. PREREQUISITE(S): SE 450.

**SE 571 SOFTWARE MAINTENANCE**

Maintenance characteristics, tasks, side effects, issues and techniques. Management considerations. Productivity in the maintenance environment. Structured technologies and maintenance. PREREQUISITE(S): SE 430 or consent.

**SE 573 SECURITY ARCHITECTURE II**

Design and construction of secure software systems, with an emphasis upon the security mechanisms available in modern programming languages and runtime environments. Topics include APIs for cryptographic techniques and key management; security mechanisms in modern runtime environments, e.g., code signing, code verification, access control, and security policies; design patterns for secure software systems. PREREQUISITE(S): SE 473.

**SE 580 DESIGN OF OBJECT-ORIENTED LANGUAGES**

This course covers issues in the design and specification of object-oriented programming languages. Sample topics include the use of patterns in program representation, static and dynamic semantics, subject reduction, subtyping, inheritance, polymorphism, genericity and concurrency. PREREQUISITE(S): SE 450.

**SE 590 ADVANCED TOPICS IN OBJECT ORIENTED TECHNOLOGY**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**SE 591 SOFTWARE ENGINEERING STUDIO II**

This is the continuation of SE 491. SE 491 and 591 must be taken as a sequence in two consecutive quarters. PREREQUISITE(S): SE 491.

**SE 681 SOFTWARE ENGINEERING PROFESSIONAL PRACTICES**

This course covers a broad range of topics related to professional practices of software engineering including engineering economics; software engineering ethics, professional practices and standards; process infrastructure, definition, measurement, implementation, and change; and software quality concepts including SQA and V&V methods and measurements. Prerequisites See requirements of the Software Engineering Professional Option.

**SE 682 SOFTWARE ENGINEERING DEVELOPMENT ENVIRONMENTS**

This course examines software engineering practices, principles, and environments related to software maintainability; software maintenance, software configuration identification, control, accounting, and auditing; software release management and delivery; and tools and methods for software engineering management, development, and maintenance. Prerequisites See requirements of the Software Engineering Professional Option

**SE 690 RESEARCH SEMINAR**

Readings and discussion on current research topics. Students may register for this course no more than three times. PREREQUISITE(S): Consent of the instructor.

**SE 691 RESEARCH SEMINAR CONTINUATION**

This course is intended for students not registering in either SE 696 or SE 698. After registering for SE 690, students register for this course in each subsequent quarter until they complete the research. Students who fail to do so will be required to re-enroll in SE 690 to meet the requirement for completing that course. Prerequisite: SE 690

**SE 692 SOFTWARE ENGINEERING STUDIO CONTINUATION**

Students register for continuation after registering for SE 491 in each subsequent quarter until they complete their studio project. Students who fail to do so will have to re-register for SE 491 to meet the requirement for completing that course.  
PREREQUISITE(S): SE 491.

**SE 696 MASTER'S PROJECT**

(4 credit hours) Students may register for this course only after their advisor has approved a written proposal for their project. Independent study form required.  
PREREQUISITE(S): Consent of advisor.

**SE 698 MASTER'S THESIS**

(2 credits) Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. PREREQUISITE(S): Consent of advisor. Independent study form required.

**SE 699 SOFTWARE ENGINEERING RESEARCH CONTINUATION**

Students register for continuation credit after registering for SE 698 in each subsequent quarter until they complete their thesis. Students who fail to do so will have to reregister for SE 698 to meet the requirement for completing that course.  
PREREQUISITE(S): SE 698.

**SCHOOL FOR NEW LEARNING****SNL 500 PROFESSIONAL ASSESSMENT****SNL 505 DESIGNING MIDDLE SCHOOL CURRICULUM TO INTEGRATE READING AND WRITING**

The course will provide middle school teachers with the opportunity to have a dialogue among themselves about a concept-developing curriculum and effective approaches to planning, teaching, and assessing learning with a conceptual emphasis. Currently teachers at the middle and high school levels often have an informational curriculum rather than an idea-developing one. The course will enable teachers to organize a middle-school curriculum framework that emphasizes the construction of ideas by students as they interpret situations in science, social studies, and apply mathematics, reading, and writing to analyze and communicate the concepts they construct. The teachers themselves will learn how to think conceptually about topics they teach and to engage students in thinking with information to envision ideas. The teachers will continue this process on an ongoing basis after the course so that they become teachers of thinking about their subjects.

**SNL 510 LEARNING PLAN COLLOQUIUM****SNL 515 INCREASING LEARNING THROUGH RESPONSIVE ASSESSMENT**

The course will focus on improving schools through the assessment and response to reading comprehension progress and needs of elementary students through job-embedded teacher education. Principles of adult education will be used to guide the

work of individuals who will help to guide the school's development of an effective system of responsive reading assessment. Participants will identify what priorities they have for their own progress and their school's development and how to achieve them. The course will provide an opportunity to clarify the structures and systems of competency-based assessment for students and for teachers. The course sessions will be interactive, and course assignments will include opportunities to work collaboratively with other educators at your school as well as in the course.

**SNL 550 PROFESSIONAL CONCENTRATION**

**SNL 551 PROFESSIONAL CONCENTRATION I**

**SNL 552 PROFESSIONAL CONCENTRATION II**

**SNL 553 PROFESSIONAL CONCENTRATION III**

**SNL 554 PROFESSIONAL CONCENTRATION IV**

**SNL 555 FOCUS AREA I**

**SNL 556 FOCUS AREA II**

**SNL 557 FOCUS AREA III**

**SNL 558 FOCUS AREA IV**

**SNL 559 MID-PROGRAM REVIEW**

**SNL 560 COMMON CURRICULUM**

**SNL 561 COMMON CURRICULUM I**

**SNL 562 COMMON CURRICULUM II**

**SNL 563 COMMON CURRICULUM III**

**SNL 564 COMMON CURRICULUM IV**

**SNL 571 APPLIED RESEARCH METHODS**

**SNL 572 COMMUNICATIONS FOR PROFESSIONALS**

**SNL 573 GROUP PROCESS IN THE WORLD OF WORK**

**SNL 574 MODELS OF CHANGE**

**SNL 575 VALUING HUMAN DIFFERENCES**

**SNL 576 ETHICS IN THE PROFESSIONS**

**SNL 577 LEADERSHIP**

**SNL 578 PRELIMINARY REVIEW**

**SNL 580 MASTER WORK I**

**SNL 581 MASTER WORK II**

**SNL 590 GRADUATION COLLOQUIUM**

**SNL 595 ASSESSMENT AND LEARNING PLAN COLLOQUIUM**

**SNL 598 SPECIAL TOPICS**

**SNL 599 LABOR HISTORY FOR TEACHERS**

**SNL 600 NON-RESIDENT CANDIDACY CONTINUATION**

**SNL 601 APPLYING RESEARCH METHODS**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through applying research methods. Basic concepts, principles and methods of research, analysis of relevant literature in students' individualized Focus Areas, and the adaptation of traditional models of academic research to the workplace are discussed. Students are provided with opportunities both to further their skills in critical thinking, conceptualization, and problem-solving and to develop strategies for the successful management of independent research and self-managed learning.

**SNL 602 UNDERSTANDING PERSONAL AND ORGANIZATIONAL CHANGE**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through understanding personal and organizational change. Multiple dimensions and dynamics of change and the roles and responsibilities of professionals as change agents are explored. Special emphasis is placed on analyzing change processes using both linear and systems models and formulating interventions to facilitate productive change in the workplace (profit and nonprofit).

**SNL 603 IMPROVING COMMUNICATION AND GROUP PROCESS**

**SNL 604 VALUING HUMAN DIFFERENCES**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through valuing human differences. The origins, nature, and costs of prejudice and other barriers that interfere with the valuing of human differences are explored in and of themselves and in relation to the increasingly diverse workforce in today's organizations. In addition, through group discussions and interviews, students are provided with opportunities to gain a deeper understanding of their own prejudices and to develop a rationale for revaluing human differences in their own lives.

**SNL 605 ENGAGING ETHICAL REASONING**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through engaging ethical reasoning. A variety of ethical decision-making frameworks are explored as well as the nature and impact of ethical issues and questions pertinent to organizational contexts. Case studies are used to stimulate reflection on individual and societal moral values. In addition, particular attention is given to designing a personal model of ethical decision-making for application within various contexts.

**SNL 606 EXERCISING EFFECTIVE LEADERSHIP**

This final seminar provides students with an opportunity to develop the Liberal Learning facilities through exercising effective leadership. Major themes of each of the previous seminars are integrated within the concept of effective leadership in a changing world. Key theories and principles relative to the management/leadership

continuum are examined as well as the implications of current trends for the future of leadership both in general and within students' personal/professional contexts.

**SNL 610 FOCUS AREA: THEORIES I**

**SNL 611 FOCUS AREA: THEORIES II**

**SNL 612 FOCUS AREA: THEORIES III**

**SNL 619 MAIN THEORIES**

This area addresses knowledge and understanding of theories, models and/or theoretical frameworks - including implications for practice - that are most relevant to the Focus Area.

**SNL 620 FOCUS AREA: RESEARCH METHODS I**

**SNL 621 FOCUS AREA: RESEARCH METHODS II**

**SNL 622 FOCUS AREA: RESEARCH METHODS III**

**SNL 629 METHODS OF RESEARCH**

This area addresses the systematic gathering of data and interpretation of findings as practiced within the Focus Area and/or related fields.

**SNL 630 FOCUS AREA: SPECIALIZED SKILLS I**

**SNL 631 FOCUS AREA: SPECIALIZED SKILLS II**

**SNL 632 FOCUS AREA: SPECIALIZED SKILLS III**

**SNL 639 SPECIALIZED SKILLS**

This area involves identifying skills that are particular to the profession and the context(s) in which these skills are applied. The emphasis is on actual demonstration of specialized skills used in practice.

**SNL 640 FOCUS AREA: COMMUNICATION MODES I**

**SNL 641 FOCUS AREA: COMMUNICATION MODES II**

**SNL 642 FOCUS AREA: COMMUNICATION MODES III**

**SNL 649 COMMUNICATION MODES**

This area involves facility with communication modes relevant to professional practice in the focus area. It requires an understanding of the relationship among key communication variables (the message, the method, the audience, and the context), a repertoire of communication strategies, and a dexterity or ease of access permitting the professional to adapt communication strategies to changing situations as necessary.

**SNL 650 FOCUS AREA: ORGANIZATIONAL/INTERPERSONAL DYNAMICS I**

**SNL 651 FOCUS AREA: ORGANIZATIONAL/INTERPERSONAL DYNAMICS II**

**SNL 652 FOCUS AREA: ORGANIZATIONAL/INTERPERSONAL DYNAMICS III**

**SNL 655 THEORIES AND DYNAMICS OF LEADERSHIP**

The course focuses on the development of competencies related to exploring and analyzing major theoretical approaches to leadership and evaluating their application(s) within multiple contexts of adult life (e.g., personal, professional, organizational, etc.). Emphasis is also placed on the exploration and analysis of related organizational/interpersonal dynamics.

**SNL 659 ORGANIZATIONAL AND INTERPERSONAL DYNAMICS**

This area addresses the human and structural issues that professionals encounter within practice (work) environments, providing students with the opportunity to consider how their professional role affects and is affected by systems, technology, structure and other people within their practice settings.

**SNL 660 FOCUS AREA: LARGER CONTEXTS I**

**SNL 661 FOCUS AREA: LARGER CONTEXTS II**

**SNL 662 FOCUS AREA: LARGER CONTEXTS III**

**SNL 669 LARGER CONTEXTS**

This area addresses the issues and problems of the student's focus area within a context that includes at least one of the following: the historical development of the profession over time and its future direction (temporal); the relationship between the profession and the society within which it exists (social, multi-cultural); and/or, the nature of the profession globally (international).

**SNL 670 FOCUS AREA: ETHICAL ISSUES I**

**SNL 671 FOCUS AREA: ETHICAL ISSUES II**

**SNL 672 FOCUS AREA: ETHICAL ISSUES III**

**SNL 675 FOCUS AREA: GENERAL**

**SNL 676 FOCUS AREA**

**SNL 679 ETHICAL ISSUES**

This area addresses the relationship between beliefs and assumptions regarding humanity, good/evil, right/wrong, etc., and behavioral outcomes (including conflicts).

**SNL 680 MASTER WORK PROPOSAL**

**SNL 681 MASTER WORK**

**SNL 689 REFLECTION ON PRACTICE**

This area addresses the interplay between thinking, doing and reflecting in the often-ambiguous and complex contexts of daily practice.

**SNL 690 GRADUATION REVIEW**

**SNL 699 SUPPLEMENTAL COMPETENCE**

Student selects a second area from among Theories, Research, Skills, Communication Modes, Organizational/Interpersonal Dynamics, Larger Contexts, Ethical Issues, and Reflection on Practice in which to develop and demonstrate competence.

**SNL 700 LEARNING PLAN RESEARCH AND DEVELOPMENT**

This course explores the aims of graduate education with particular focus on the program of study leading to the Master of Arts in Integrated Professional Studies?its purpose, scope, philosophy, key roles, and processes. Special emphasis is placed on developing a working draft of the Learning Plan for the individualized portion of the program (i.e., the Focus Area), attaining a fuller understanding of individual fields of professional study, and applying Liberal Learning Skills in professional practice. The process is initiated for establishing an academic committee consisting of the student, the Faculty Mentor, and a Professional Advisor (an established practitioner in the student's professional Focus Area).

#### **SNL 702 LEARNING PLAN REVIEW**

Throughout the second quarter, students finalize their Learning Plans, convene their Academic Committees (comprised of themselves, their Professional Advisor, and their Faculty Mentor) to review their Learning Plans, and upon initial approval, submit their Learning Plans to the Mastery Review Committee (MRC) for approval.

#### **SNL 705 INDEPENDENT STUDY**

#### **SNL 710 MAIN THEORIES**

This area addresses knowledge and understanding of theories, models and/or theoretical frameworks - including implications for practice - that are most relevant to the Focus Area.

#### **SNL 711 MAIN THEORIES I**

#### **SNL 712 MAIN THEORIES II**

#### **SNL 713 MAIN THEORIES III**

#### **SNL 720 METHODS OF RESEARCH**

This area addresses the systematic gathering of data and interpretation of findings as practiced within the Focus Area and/or related fields.

#### **SNL 721 METHODS OF RESEARCH I**

#### **SNL 722 METHODS OF RESEARCH II**

#### **SNL 723 METHODS OF RESEARCH III**

#### **SNL 725 APPLYING RESEARCH METHODS SEMINAR**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through applying research methods. Basic concepts, principles and methods of research, analysis of relevant literature in students' individualized Focus Areas, and the adaptation of traditional models of academic research to the workplace are discussed. Students are provided with opportunities both to further their skills in critical thinking, conceptualization, and problem-solving and to develop strategies for the successful management of independent research and self-managed learning.

#### **SNL 728 ASSESSMENT AND INTEGRATION I**

This session includes orientation of Professional Advisors, and provides opportunity to integrate and apply dynamics of reflective practice, self-assessment, liberal learning, and ongoing collaboration.

**SNL 730 SPECIALIZED SKILLS**

This area involves identifying skills that are particular to the profession and the context(s) in which these skills are applied. The emphasis is on actual demonstration of specialized skills used in practice.

**SNL 731 SPECIALIZED SKILLS I****SNL 732 SPECIALIZED SKILLS II****SNL 733 SPECIALIZED SKILLS III****SNL 735 UNDERSTANDING PERSONAL AND ORGANIZATIONAL CHANGE SEMINAR**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through understanding personal and organizational change. Multiple dimensions and dynamics of change and the roles and responsibilities of professionals as change agents are explored. Special emphasis is placed on analyzing change processes using both linear and systems models and formulating interventions to facilitate productive change in the workplace (profit and nonprofit).

**SNL 740 COMMUNICATION MODES**

This area involves facility with communication modes relevant to professional practice in the focus area. It requires an understanding of the relationship among key communication variables (the message, the method, the audience, and the context), a repertoire of communication strategies, and a dexterity or ease of access permitting the professional to adapt communication strategies to changing situations as necessary.

**SNL 741 COMMUNICATION MODES I****SNL 742 COMMUNICATION MODES II****SNL 743 COMMUNICATION MODES III****SNL 745 IMPROVING TEAM EFFECTIVENESS SEMINAR**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through improving team effectiveness. Key concepts and models are explored regarding characteristics and dynamics of effectively functioning teams including patterns of group interaction, trust, openness, influence, conflict and decision-making. Strategies for both resolving (or minimizing) barriers to effective group effort and improving team functioning are addressed.

**SNL 748 ASSESSMENT AND INTEGRATION SEMINAR II**

This session provides further opportunity to integrate and apply dynamics of reflective practice, self-assessment, liberal learning, and ongoing collaboration.

**SNL 750 ORGANIZATIONAL AND INTERPERSONAL DYNAMICS**

This area addresses the human and structural issues that professionals encounter within practice (work) environments, providing students with the opportunity to consider how their professional role affects and is affected by systems, technology, structure and other people within their practice settings.

**SNL 751 ORGANIZATIONAL AND INTERPERSONAL DYNAMICS I****SNL 752 ORGANIZATIONAL AND INTERPERSONAL DYNAMICS II**

### **SNL 753 ORGANIZATIONAL AND INTERPERSONAL DYNAMICS III**

#### **SNL 755 VALUING HUMAN DIFFERENCES SEMINAR**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through valuing human differences. The origins, nature, and costs of prejudice and other barriers that interfere with the valuing of human differences are explored in and of themselves and in relation to the increasingly diverse workforce in today's organizations. In addition, through group discussions and interviews, students are provided with opportunities to gain a deeper understanding of their own prejudices and to develop a rationale for revaluing human differences in their own lives.

#### **SNL 758 ASSESSMENT AND INTEGRATION SEMINAR III**

This session provides further opportunity to integrate and apply dynamics of reflective practice, self-assessment, liberal learning, and ongoing collaboration.

#### **SNL 760 LARGER CONTEXTS**

This area addresses the issues and problems of the student's focus area within a context that includes at least one of the following: the historical development of the profession over time and its future direction (temporal); the relationship between the profession and the society within which it exists (social, multi-cultural); and/or, the nature of the profession globally (international).

#### **SNL 761 LARGER CONTEXTS I**

#### **SNL 762 LARGER CONTEXTS II**

#### **SNL 763 LARGER CONTEXTS III**

#### **SNL 765 ENGAGING ETHICAL REASONING SEMINAR**

This seminar provides students with an opportunity to develop the Liberal Learning facilities through engaging ethical reasoning. A variety of ethical decision-making frameworks are explored as well as the nature and impact of ethical issues and questions pertinent to organizational contexts. Case studies are used to stimulate reflection on individual and societal moral values. In addition, particular attention is given to designing a personal model of ethical decision-making for application within various contexts.

#### **SNL 770 ETHICAL ISSUES**

This area addresses the relationship between beliefs and assumptions regarding humanity, good/evil, right/wrong, etc., and behavioral outcomes (including conflicts).

#### **SNL 771 ETHICAL ISSUES I**

#### **SNL 772 ETHICAL ISSUES II**

#### **SNL 773 ETHICAL ISSUES III**

#### **SNL 774 REFLECTION ON PRACTICE**

This area addresses the interplay between thinking, doing and reflecting in the often-ambiguous and complex contexts of daily practice.

#### **SNL 775 EXERCISING EFFECTIVE LEADERSHIP SEMINAR**

This final seminar provides students with an opportunity to develop the Liberal Learning facilities through exercising effective leadership. Major themes of each of the

previous seminars are integrated within the concept of effective leadership in a changing world. Key theories and principles relative to the management/leadership continuum are examined as well as the implications of current trends for the future of leadership both in general and within students' personal/professional contexts.

**SNL 778 ASSESSMENT AND INTEGRATION SEMINAR IV**

This session provides further opportunity to integrate and apply dynamics of reflective practice, self-assessment, and liberal learning, as well as planning for program progress.

**SNL 780 MASTER WORK PROPOSAL**

**SNL 781 FINAL MASTER WORK**

**SNL 785 SUPPLEMENTAL COMPETENCE I**

Student selects a second area from among Theories, Research, Skills, Communication Modes, Organizational/Interpersonal Dynamics, Larger Contexts, Ethical Issues, and Reflection on Practice in which to develop and demonstrate competence.

**SNL 786 SUPPLEMENTAL COMPETENCE II**

As an option to the Integrating Project, student may elect to develop and demonstrate an additional four areas of professional competence from among Theories, Research, Skills, Communication Modes, Organizational/Interpersonal Dynamics, Larger Contexts, Ethical Issues, and Reflection on Practice.

**SNL 787 SUPPLEMENTAL COMPETENCE III**

As an option to the Integrating Project, student may elect to develop and demonstrate an additional four areas of professional competence from among Theories, Research, Skills, Communication Modes, Organizational/Interpersonal Dynamics, Larger Contexts, Ethical Issues, and Reflection on Practice.

**SNL 788 SUPPLEMENTAL COMPETENCE IV**

As an option to the Integrating Project, student may elect to develop and demonstrate an additional four areas of professional competence from among Theories, Research, Skills, Communication Modes, Organizational/Interpersonal Dynamics, Larger Contexts, Ethical Issues, and Reflection on Practice.

**SNL 789 SUPPLEMENTAL COMPETENCE V**

As an option to the Integrating Project, student may elect to develop and demonstrate an additional four areas of professional competence from among Theories, Research, Skills, Communication Modes, Organizational/Interpersonal Dynamics, Larger Contexts, Ethical Issues, and Reflection on Practice.

**SNL 790 GRADUATION REVIEW**

**SNL 791 INTEGRATING PROJECT PROPOSAL**

A concise, well-honed document that clearly delineates the student's readiness to engage in the Final Integrating Project as well as the project's nature and scope. The topic under investigation should be supported by relevant literature in the field and the use of appropriate methods of inquiry.

**SNL 792 FINAL INTEGRATING PROJECT**

The Integrating Project is an original, independently conducted project that incorporates elements of theory, practice, knowledge, and skill and demonstrates integration of the Liberal Learning Skills with the professional Focus Area. It serves as the culminating

Learning Activity of the program and is intended to make an original contribution to the student's professional field. The topic of the Integrating Project is chosen by the student with the approval of the Professional Advisor and the Mastery Review Committee and typically involves a practice-based problem with an appropriate intervention.

## **SOCIOLOGY**

### **SOC 401 ADVANCED INTRODUCTION TO SOCIOLOGY**

A focused and intense introduction to the current state of the discipline of sociology: its basic concepts, theories, methodologies and research strategies. Students completing the course are expected to be able to engage successfully in the department's graduate program.

### **SOC 403 SOCIAL POLICY AND SOCIAL CHANGE**

Examines the process of policy-making and the effects of policies on individuals, organizations, and communities.

### **SOC 405 SOCIOLOGICAL PERSPECTIVES**

Examines sociological theories, methods and concepts through a study of the work of contemporary sociologists.

### **SOC 411 SOCIAL RESEARCH**

This course focuses on the logic of sociological inquiry, ethical issues of research, the various methods social scientists use, and research in applied settings.

### **SOC 412 DATA ANALYSIS**

The implementation of a research project. Analytic techniques, data processing and the preparation of a written research report.

### **SOC 413 QUALITATIVE METHODS**

An examination of qualitative methods in sociology: data collection and analysis, field research, life histories, unobtrusive measures and visual methods employing video and film equipment are emphasized.

### **SOC 414 LITERATURE REVIEW WRITING PROJECT (PREREQ(S): INSTRUCTOR'S CONSENT)**

This course requires students to complete a paper reviewing the sociological literature on a topic of their choice. Successful completion of the literature review paper is one of the ways in which students may fulfill the final project requirement leading to the master's degree. PREREQUISITE(S): Instructor's consent.

### **SOC 416 APPLIED ANTHROPOLOGY (CROSS-LISTED AS ANT 316)**

### **SOC 420 URBAN SOCIOLOGY (CROSS-LISTED AS SOC 345)**

(Cross-listed as SOC 345) Introduction to advanced level studies in applied urban sociology: contemporary urban theory, research, and policy issues.

### **SOC 421 URBAN ANTHROPOLOGY**

Theories and methods of contemporary anthropology are employed to analyze a variety of topics of urban phenomena including the process of urbanization, urbanism-urban

culture, subcultures, ethnic life styles-and the notion of images of cities.

**SOC 422 URBAN AND COMMUNITY ANALYSIS (CROSS-LISTED AS MPS 573)**

(Cross-listed as MPS 573) Quantitative analysis of urban issues including social-area analysis, patterns of segregation, neighborhood change, and other selected topics.

**SOC 423 URBAN CULTURAL AREAS**

Ethnological approach to urban life stressing the qualitative analysis and evaluation of different types of urban communities, community organizations, and urban life styles.

**SOC 424 THE SOCIOLOGY OF HOUSING**

An in-depth approach of a major component of urban life with a focus on federal and local policies, programs and issues.

**SOC 425 STRATEGIES OF COMMUNITY ORGANIZATIONS**

Strategies and techniques used in the formation and process of community organizations.

**SOC 426 POLICIES AND URBAN DEVELOPMENT (CROSS-LISTED AS MPS 574)**

(Cross-listed as MPS 574) (Sequel to SOC 425) Community agencies viewed as problem-solving organizations. Concentration on the impact of state and local government on community organizations and how community organizations influence social policy.

**SOC 430 MEDICAL ANTHROPOLOGY (CROSS-LISTED AS SOC 319)**

**SOC 431 MEDICAL SOCIOLOGY (CROSS-LISTED AS MPS 534)**

Analysis of the social system of health care: practitioners, organizations, patients, and their multiple interrelationships. An evaluation of problems in health care delivery systems.

**SOC 432 SOCIAL SERVICES IN CONTEMPORARY SOCIETIES (CROSS-LISTED AS SOC 360)**

Analysis of the concept of welfare, evaluation of the social organization of welfare and the problems of welfare service systems. The interrelationships between welfare and the family, employment, health and crime are explored.

**SOC 433 THE SOCIOLOGY OF EDUCATION**

Analysis of educational organizations and their effects-including characteristics of institutional structures, teaching as an occupation, and the relationship between educational attainment and social mobility.

**SOC 434 YOUTH SERVICES: HEALTH AND WELFARE**

Review of research on various youth problems (eg., substance abuse, pregnancy, runaways) and consideration of efforts at amelioration and control.

**SOC 435 STRUCTURE OF HEALTH CARE ORGANIZATIONS**

A case study approach emphasizing the interaction of the clinical, administrative, and other components of the health care team, the formulation of policy, and the control and distribution of resources.

**SOC 436 YOUTH SERVICE DELIVERY SYSTEMS**

Consideration of the current state of youth services in Illinois. Analysis of the administration of agencies and their programs: program design, the funding process, intervention strategies.

**SOC 437 HEALTH CARE DELIVERY SYSTEMS (CROSS-LISTED AS MPS 537)**

Consideration of the current state of health care delivery in the United States, the growth and projected direction of health care in the future. Implications of national policy on local delivery; cross-national comparisons and economic conditions will be considered.

**SOC 440 LAW AND SOCIAL SCIENCE**

Analysis of the American legal system as an instrument of social control, social change, and social reform. The impact of social science research on public policy decisions.

**SOC 442 CRIME, DELINQUENCY AND SYSTEMS OF CORRECTION**

Study of major criminological theories and their application to systems of corrections. Present trends at federal, state, city and private correctional institutions.

**SOC 443 LAW AND ADMINISTRATION OF JUSTICE**

Analysis of legal systems and their implementation; jurisprudence and its role in the development and change of legal systems; role of the courts and the police as related to community social problems.

**SOC 444 LAW ENFORCEMENT AND COMMUNITY RELATIONS**

Examination of the policies and practices of law enforcement agencies and personnel and their impact on the communities they serve.

**SOC 446 LAW ENFORCEMENT POLICY ISSUES (CROSS-LISTED AS MPS 544)**

(Cross-listed as MPS 544) Examines the development, implementation, and evolution of formal and informal policies and procedures governing police agencies, correctional facilities, probation and parole systems, and the courts. Policy enactment on the "front lines" of law enforcement bureaucracies is emphasized.

**SOC 447 INSTITUTIONAL REACTION TO DEVIANTS**

Examines theories and research on the social organization of institutions that label and process deviants.

**SOC 448 STREET GANGS**

Examines the problems associated with street gangs and "troublesome youth groups" in the United States and Europe. Classical and contemporary theories of gang formation and proliferation are reviewed. Both quantitative and qualitative research on gangs are studied. Gang reduction policies and programs (national and local) are scrutinized. Emphasis is placed on the street gang's relationship with other organizations and social actors in the same "habitat."

**SOC 449 CRIMINAL ORGANIZATIONS**

The problem of organized crime in American society is examined. Both traditional and emerging groups are studied. The ethnic succession and alien conspiracy theories are reviewed. The importance of social structural influences for the development of criminal organizations is emphasized.

**SOC 450 ADVANCED STATISTICS I (CROSS-LISTED AS PSY 410)**

**SOC 450 ADVANCED STATISTICS I (CROSS-LISTED AS PSY 410)**

**SOC 460 SOCIOLOGY OF THE FAMILY**

Examines demographic trends in this century, recent literature on women and men, wives and husbands, children and parents. Some comparative material is included.

**SOC 461 SOCIOLOGY OF YOUTH**

Critical analysis of literature on nondelinquent youth; focus on the social contexts within which the transition to adulthood occurs.

**SOC 462 SOCIALIZATION**

Perspectives on the individual's acquisition of patterns of behavior and culture in social groups.

**SOC 463 SOCIAL PSYCHOLOGY**

The influence of group life on personality development, social interaction, and social behavior.

**SOC 464 SOCIAL INEQUALITY**

An analysis of inequalities in power, wealth and prestige with an emphasis on the concept of social class, trends in social mobility, and relationships to current social topics such as housing, welfare and political participation.

**SOC 465 INTERGROUP RELATIONS**

Theoretical perspectives on racial, ethnic, gender, sexual orientation and differentially abled groups emphasizing processes of group formation, patterns of prejudice and discrimination, and an evaluation of methods to reduce prejudice and discrimination.

**SOC 466 COLLECTIVE BEHAVIOR**

Study of social trends, social movements, communications, and crowd behavior. Emphasis on processes of social change, includes examination of historical and cross-cultural case material.

**SOC 467 ORGANIZATIONS**

The functioning, premises, and consequences of formal organizations will be considered using a variety of perspectives.

**SOC 468 SOCIAL DEVIATION (CROSS-LISTED AS SOC 304)**

Research and theory in the sociology of deviant behavior, emphasis upon such topics as the labeling of deviants, the analysis of deviant careers, patterns of deviant socialization, and the roles of agents or agencies of social control.

**SOC 469 MIDDLE AGE AND AGING**

A look at the changing age composition of the population; meaning and societal definition of aging, the different types of responses to growing older, and the various social programs designed for the aged.

**SOC 470 GENDER AND SOCIETY (CROSS-LISTED AS MLS 447 & WMS 460)**

Theory and research on roles of men and women, sexual behavior and patterns of gender inequality.

**SOC 471 SOCIOLOGY OF KNOWLEDGE**

An analysis of the social forms of knowledge and the social processes by which individuals acquire this knowledge. The institutional organization and social distribution of knowledge.

**SOC 472 SOCIOLOGY OF RELIGION**

An historical and contemporary analysis of the interrelationship between religion and society. Emphasis upon the sacredsecular and church-sect typologies, new religious movements and religion's contributions to societal values, beliefs and meaning systems.

**SOC 473 THE DILEMMA OF THE MODERN AGE (CROSS-LISTED AS MLS 460)**

(Cross-listed as MLS 460) The crisis of the individual's place in society and in the world itself-the dilemma of modernity-is exposed through social science, philosophy, literature, art, and music. The distinctive features of and responses to modern culture-individualism, alienation, and depersonalization-are examined through the multiple perspectives that form the modern mind.

**SOC 474 POPULATION PROBLEMS (CROSS-LISTED: SOC 390)**

(Cross-listed as SOC 390) An examination of population related problems and issues facing nations today. Selected topics include comparative population policies and their societal implications, population control, mortality patterns, changing patterns of illness and epidemic disease, contemporary migration and refugee patterns and related national policies, and the societal responses to changing age structures.

**SOC 475 WORK, LEISURE, AND THE QUALITY OF LIFE (CROSS-LISTED AS MLS 443)**

(Cross-listed as MLS 443) Examination of the nature, meaning and history of work and leisure in Western culture; and the relationship of work and leisure to issues associated with the contemporary concept of "quality of life".

**SOC 476 WORK AND LEISURE IN THE FUTURE (CROSS-LISTED AS MLS 448)**

(Cross-listed as MLS 448) There has been a great change in the meaning, form and value assigned to work and leisure in society. Many of these changes have come to be characterized as inevitable consequences of life in post-industrial society. This course: 1) speaks to identify the factors that are shaping the future of work and leisure and 2) will explore futuristic scenarios that challenge the position of "work as a central-life meaning."

**SOC 480 POPULAR CULTURE AND THE ARTS (CROSS-LISTED AS SOC 386)**

(Cross-listed as SOC 386) The course explores topics in popular culture and the arts from a sociological perspective. The focus includes specific arts (film, music, photography, etc), subcultures of artists and performers and the impact of the market on the arts and popular culture.

**SOC 490 AFRICAN-AMERICAN CULTURE (CROSS-LISTED AS SCG 450/LSE 450)**

(Cross-listed as SCG450/LSE450) Intended for teachers and students of society in order that they may examine the contributions of the African American community to American culture; gain a functional understanding of the social, economic and political development of blacks in America; gain an insight into problems created by racism and social construction of race.

**SOC 491 AFRICAN-AMERICAN SOCIAL THOUGHT AND SOCIAL ACTION**

The course examines a unique African-American community-service tradition. This tradition embodied in a social thought perspective merges direct social action with intellectual ideas to improve conditions of America's black community. Contributions of social scientist and social activists will be used to demonstrate this perspective and to discuss sociology topics as community, race and social change.

**SOC 493 VISUAL SOCIOLOGY**

A sociological view of documents that record social reality. These documents primarily include photographs but can also include paintings and sculpture.

**SOC 495 SPECIAL TOPICS IN SOCIOLOGY**

Special courses will be offered as students and faculty identify selected topics of common interest.

**SOC 498 INTERNSHIP (CROSS-LISTED AS SOC 392) (WRITTEN PERMISSION OF CHAIR REQUIRED)**

Students may be placed with agencies where they will have the opportunity to participate in activities such as research and counseling. Credit may vary but is subject to the limit of eight quarter hours.

**SOC 499 INDEPENDENT STUDY**

**SOC 500 THESIS RESEARCH**

The thesis research should culminate in the acceptance of a thesis proposal. Four quarter hours, one registration.

**SOC 601 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. Non-credit. \$40.00 fee.

**TEACHING AND LEARNING**

**T&L 400 CLINICAL EXPERIENCES WITH INFANTS AND TODDLERS (COREQUISITE: SCG 404)**

(1 quarter hour) Students will observe and interact with infants and toddlers (25 clock hours). Appropriate assessment methodologies will be emphasized. COREQUISITE(S): SCG 404.

**T&L 401 CLINICAL EXPERIENCES WITH YOUNG CHILDREN AND FAMILIES (COREQUISITE: HSC 409)**

(1 quarter hour) Students will observe and interact with young children and their parents in parent training programs, parent conferences and home visits (25 clock hours). They also will observe and work with families of young children with special needs. COREQUISITE(S): HSC 409.

**T&L 402 CLINICAL EXPERIENCES WITH PRE-SCHOOLERS (COREQUISITE: T&L 407)**

(1 quarter hour) Students will observe and interact with preschool-age children (25 clock hours). Appropriate early childhood curricula will be emphasized. COREQUISITE(S): T&L 407.

**T&L 403 CLINICAL EXPERIENCES IN PRIMARY GRADES (COREQUISITE: T&L 408)**

(1 quarter hour) Students will observe and interact with primary-age children (25 clock hours). Appropriate curricula for children in the primary grades will be emphasized. COREQUISITE(S): T&L 408.

**T&L 405 PROFESSIONAL PRACTICE IN SECONDARY SCHOOLS (FORMERLY CDG 405)**

This course is an introduction to the professional world of secondary school teaching. In this course students develop the knowledge and skills for being a reflective practitioner. Students focus on understanding themselves and their behaviors in teaching situations with adolescents in schools. These insights combined with subject matter knowledge guide the development of a curriculum unit that integrates planning skills, teaching strategies, classroom management and evaluation techniques. In addition to this class, daytime clinical hours as scheduled by the instructor are required as part of this course.

**T&L 406 LANGUAGE DEVELOPMENT OF THE YOUNG CHILD (COREQUISITE(S): SCG 404)**

Overview of the development of language in young children. Attention is devoted toward issues of relating to second language learners and young children with special needs. Includes techniques and materials for use in assessing and assisting this development. COREQUISITE(S): SCG 404.

**T&L 407 PREPRIMARY PROGRAMS: CURRICULUM AND STRATEGY (PREREQUISITE(S): SCG 404. COREQUISITE(S): T&L 402)**

Students will plan, implement and evaluate activities that promote the physical, emotional, social, spiritual, and cognitive development of preschool children from diverse cultural and socioeconomic backgrounds. Methods of 1) facilitating children's play; 2) individualization through building on children's experiences, learning styles and interests; 3) using media; and 4) developing learning centers will be emphasized. Assessment practices are incorporated in this experience. PREREQUISITE(S): SCG 404. COREQUISITE(S): T&L 402.

**T&L 408 CURRICULUM AND INSTRUCTION IN PRIMARY GRADES (PREREQUISITE(S): SCG 404. COREQUISITE(S): T&L 403)**

This course provides an examination of the objectives, content, methods and materials used in the primary grades of elementary schools. A variety of teaching methods and classroom management strategies will be discussed and illustrated, including teacher-led instruction and student-centered instruction. Students will be encouraged to reflect upon their own emerging educational philosophies and teaching styles as they take part in laboratory and clinical experiences. Many opportunities for planning, using and evaluating a variety of teaching methods will be offered. Each student will prepare one teaching unit on a primary social studies theme. Appropriate tests and assessment are included. PREREQUISITE(S): SCG 404. COREQUISITE(S): T&L 403.

**T&L 409 PROFESSIONAL PRACTICE IN ELEMENTARY SCHOOLS (FORMERLY CDG 409)**

This course is an introduction to the professional roles required of elementary school teachers. Students will develop a knowledge-based framework for considering the many factors involved in decision-making in an elementary classroom. This framework will serve to guide students as they create a social studies curriculum unit, which integrates planning skills, teaching strategies, classroom management and evaluation techniques. Daytime clinical hours are required during this course.

**T&L 411 ASSESSMENT IN EARLY CHILDHOOD (PREREQUISITE(S): SCG 404)**

Students will research, use, and critique a variety of assessment methods and tools appropriate for use with young children from diverse cultural and socioeconomic backgrounds. Ways of involving parents, families, and other educational stakeholders in the assessment process will be emphasized. Formative and summative techniques, reporting procedures, and management processes will be evaluated. Naturalistic

assessment techniques for use in group, family system, or one-on-one situations will be explored. PREREQUISITE(S): SCG 404.

**T&L 412 EMERGING READING AND LANGUAGE ARTS (PREREQUISITE(S): T&L EE MAJORS T&L 409; T&L ECE MAJORS T&L 408)**

This course focuses on the instruction, assessment of and subsequent instruction related to emergent literacy development. Individual student strengths and needs will be addressed through theories and practices related to both code instruction and meaning-oriented approaches to literacy. Optional field experiences will provide students with opportunities to analyze theories, as well as to observe and practice strategies, and to make informed instructional decisions. The role of the home in fostering literacy development is stressed, along with ways to build home-school literacy connections. PREREQUISITE(S): For T&L EE majors prereq is T&L 409; for T&L ECE majors prereq is T&L 408.

**T&L 413 READING/LANGUAGE ARTS IN THE MIDDLE GRADES (PREREQUISITE(S): T&L 412)**

This course extends Emerging Reading and Language Arts to facilitate increased independence in students as strategic readers and competent writers. It focuses on the further development of reading comprehension and writing abilities in the intermediate grades and middle school. Emphasis will be placed on using narrative and expository text and mixed genres related to content-area instruction. PREREQUISITE(S): T&L 412.

**T&L 414 LITERACY IN THE SECONDARY SCHOOL (PREREQUISITE(S): T&L 405)**

This course is designed to acquaint students with the literacy strategies that are essential at the secondary level. There will be an emphasis on the interrelationship of all aspects of language, oral and written, that results in literacy as an epistemic engagement -- a meaning-making tool in the construction of knowledge. The course will discuss specific aspects of literacy process in general but will focus on developmental reading skills within the context of the varied cultural and ethnolinguistic characteristics of urban secondary classrooms. Students will become acquainted with a wide range of literacy-teaching strategies, including reading comprehension, literature-group discussion, research, and study strategies, to be applied across a variety of learning situations and text types. PREREQUISITE(S): T&L 405

**T&L 415 TEACHING AND LEARNING ELEMENTARY SCHOOL SCIENCE (FORMERLY CDG 415) (PREREQUISITE(S): T&L 409)**

Teaching and Learning Elementary School Science. An introduction to materials, methods and strategies for helping students in grades K-8 become scientifically literate: ie., to understand the nature of science and its impact on technology and science. Particular attention will be given to theoretical views about how children learn science, the proper use of materials and equipment, the development of scientific thinking, e.g., skills in observing, classifying, collecting, and interpreting data, questioning strategies, and ways to assess student progress. Daytime clinical hours are required during this course. PREREQUISITE(S): T&L 409.

**T&L 416 TEACHING AND LEARNING ELEMENTARY SCHOOL MATHEMATICS (FORMERLY CDG 416) (PREREQUISITE(S): T&L 409)**

An introduction to materials, methods, and strategies for helping students in grades K-8 become mathematically literate: ie., for helping elementary students to value mathematics, to become confident in their mathematical abilities, to attack and solve mathematical problems, and to reason and communicate mathematically. Particular attention will be given to the theoretical views about how children learn mathematics, the proper use of manipulative materials, the development of mathematical thinking, e.g., skills in estimation, pattern recognition, or spatial perception; the use of

technology, and ways to assess student progress. Clinical hours required.  
PREREQUISITE(S): T&L 409.

**T&L 417 CURRICULUM IN LANGUAGE COMMUNICATIONS (FORMERLY CDG 427)**

**T&L 418 LEARNING THROUGH THE ARTS (FORMERLY CDG 418)**

This course focuses on the arts (drawing from visual arts, music, drama and dance) as an integral component of teaching and learning in the elementary school curriculum. Students will 1) be exposed to a diverse body of artistic forms, functions and disciplines to develop a critical, aesthetic and visual working vocabulary; 2) acquire an understanding and skill in helping children identify and use various mediums to explore thoughts and reveal impressions of their experiences; and 3) design, construct and implement creative, interdisciplinary activities that places a value on the arts through the languages of discipline-based art education and multi-intelligences. Daytime clinical hours are required during this course. PREREQUISITE(S): T&L 409.

**T&L 419 PRACTICUM: CURRICULUM AND METHODS IN SOCIAL STUDIES (FORMERLY CDG 419) (PREREQUISITE(S): T&L 409)**

Materials, methods and classroom management techniques appropriate for teaching social studies in the elementary grades; disciplines included are history, geography, anthropology, political science, economics and sociology. Topics will include cooperative group learning, questioning skills, role-playing, citizenship education, value development, program planning and evaluation. PREREQUISITE(S): T&L 409.

**T&L 420 MATH AND SCIENCE IN EARLY CHILDHOOD (PREREQUISITE: SCG 404, T&L 408)**

Students will explore theoretical principles, materials, methods, and activities for teaching and integrating mathematics and science in preschool and primary grades. Students will conduct clinical observations and complete individualized teaching assignments. PREREQUISITE(S): SCG 404 and T&L 408.

**T&L 426 TEACHING WRITING (PREREQUISITE(S): T&L 405)**

Prepares for teaching writing and composition at the middle and secondary school levels. The course focuses upon methods of teaching composition, examination of literature and research about the composing process, the development of language and reading skills, and the assessment and evaluation of writing. The development of writing curriculums will also be explored. PREREQUISITE(S): T&L 405.

**T&L 428 TEACHING LITERATURE (PREREQUISITE(S): T&L 405)**

Prepares for teaching literature at the middle and secondary school levels. Examines contemporary issues in the teaching of literature, explores methods of teaching major literary genres, addresses problems of literacy and focuses on the transactional nature of reading and writing. Emphasis on developing a repertoire of ways of teaching literature and a variety of literature curriculums. PREREQUISITE(S): T&L 405.

**T&L 429 TEACHING YOUNG ADULT LITERATURE (PREREQUISITE: T&L 405)**

This course is devoted to the study of Young Adult Literature: an exciting, emerging field. Issues and ideas to be examined include the following: current debates regarding issues in curriculum and teaching; selecting, reading, evaluating, and teaching young adult literature; cultivation of life-long reading habits and literacy development. Students will become familiar with major writers of young adult literature, read diverse texts, explore major genres, review award winning novels, consider the role of the media, and develop creative projects. PREREQUISITE(S): T&L 405.

**T&L 435 TEACHING, LEARNING, AND ASSESSING MIDDLE SCHOOL MATHEMATICS**

**T&L 436 TEACHING AND LEARNING SECONDARY SCHOOL MATHEMATICS (PREREQUISITE(S): T&L 405)**

Prepares for teaching mathematics at the middle school and secondary school levels. Examines contemporary issues in teaching mathematics, methods of teaching secondary mathematics, and recent history in mathematics curriculum development of alternative teaching strategies and the implementation of the NCTM Standards. Lesson and unit development, evaluation and classroom management also will be discussed. PREREQUISITE(S): T&L 405.

**T&L 439 METHODS OF SECONDARY SCIENCE EDUCATION (CROSS-LISTED AS SE 339) (PREREQUISITE(S): T&L 405)**

This course is designed to update teachers in the methods of teaching science. This involves reviewing the processes of science, theories of learning, and instructional strategies appropriate to laboratory science. This course also provides an update on the current trends and issues in science education as well as an analysis of successful science curricula programs. PREREQUISITE(S): T&L 405.

**T&L 449 TEACHING MODERN LANGUAGES (CROSS-LISTED AS SE 349/MOL 349) (PREREQUISITE(S): T&L 405)**

Prepares for teaching modern languages at the middle and secondary school levels. Examines the theory and practice of teaching modern languages with an emphasis on developing alternative teaching strategies and using diverse resources. Lesson and unit development, evaluation and classroom management will also be discussed. PREREQUISITE(S): T&L 405.

**T&L 453 TEACHING HISTORY AND SOCIAL SCIENCE IN SECONDARY SCHOOLS (PREREQUISITE(S): T&L 405)**

Teaching, History and Social Science in Secondary Schools. Prepares for teaching history and social sciences at the middle and secondary school levels. Examines the nature and purpose of history and social sciences curriculum within secondary schools, the current status of social studies materials and practices, and issues confronting today's secondary social studies teachers. Emphasis on alternative teaching strategies, resources for teaching and learning, teachers' responsibilities in curriculum development and decision-making, and methods and materials for addressing cultural diversity. Lesson and unit development, evaluation and classroom management also will be discussed. PREREQUISITE(S): T&L 405

**T&L 454 CONTEMPORARY METHODS IN THE TEACHING OF GEOGRAPHY**

**T&L 457 TEACHING ECONOMIC GEOGRAPHY (FORMERLY CDG437)**

**T&L 458 TEACHING ECONOMIC HISTORY (FORMERLY CDG438)**

**T&L 459 TEACHING THE ECONOMICS OF GOVERNMENT (FORMERLY CDG439)**

**T&L 460 INSTRUCTIONAL TECHNOLOGY FOR ALL STUDENTS**

With current theories and research about student learning and instructional technology, it examines how students interact with technology, what technologies are available to help students learn, issues related to technology access, and how to evaluate existing and emerging technology. Students will examine in detail technologies associated with their particular content area. In addition to the assignments given,

many demonstrations of classroom software will occur during the course. Students are assumed to have a general familiarity with computers, Internet use, e-mail, and productivity (office) software and a basic understanding of student learning and issues in education. Pre-requisite: Introduction to computers or instructors permission.

**T&L 465 VISUAL ART EDUCATION I: HISTORIES OF LOOKING**

This course surveys the trajectory of visual thoughts and explores strategies in art production and distribution (e.g., documents, writing, and practice) used by artists, art educators, and visualists. This course examines the visual arts in and out of space where learning occurs and explores the (in) effectiveness of the visual arts when intersected with pedagogical practices. The course presents a foundation in the social, historical, cultural, and political influences on visual thinking and explores the interpretation of visual production as language, information, curriculum, activism, design, and new media within multiple working spaces. Site visits required. (Prerequisite: T&L 405).

**T&L 466 VISUAL ARTS II: PEDAGOGY**

This course investigates strategies for creative enterprise and visual studies and includes art projects and site work, reading, investigations, multi-media projects and writing. Through the use of various media and technologies, students explore methods for teaching, authoring, and/or collaborating in preparing visual arts curriculum. The course explores teaching practices in space where technology, youth, and social and educational elements intersect. Teaching practices within diverse settings are considered as well as the contribution of artists, writers, place makers, teachers, designers, and cultural workers. Site visits are required. (Prerequisite: T&L 405).

**T&L 525 READING, WRITING, AND COMMUNICATING ACROSS THE CURRICULUM (WAS CDG 525)**

(formerly CDG 525) This course analyzes the relationships among reading, writing, speaking and listening. It encourages middle level and high school teachers in all disciplines to take these interrelationships into account and to plan curricula that include current teaching strategies to enable students to become better readers, writers and thinkers in their various content-areas. This course will also concentrate on group process and its role in effective teaching within and across content-areas. Language use, learning and teaching are considered from a multicultural perspective.

**T&L 585 ELEMENTARY STUDENT TEACHING AND SEMINAR (PERMISSION REQUIRED) (FORMERLY CDG 585)**

(formerly CDG 585) (8 quarter hours) Students will be placed for a minimum of 12 weeks in an elementary school. Seminar will meet once a week, in the participating schools and/or at DePaul. At first, they will focus on issues of immediate concern to student teachers. As the students gain experience the seminar will examine six or eight classroom issues, that is, topics which students have found to be significant on the basis of their experience. These would include such things as assessment, evaluation, classroom management, curriculum planning, and relationships with colleagues. After delineating what the issues are, students would be expected to analyze and discuss readings which relate to the issues. PREREQUISITE(S): Application and approval required. Open only to DePaul student.

**T&L 586 ELEMENTARY STUDENT TEACHING SEMINAR**  
COREQUISITE(S): T&L 585

**T&L 588 INDEPENDENT STUDY IN TEACHING AND LEARNING (PERMISSION REQUIRED)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

**T&L 589 THESIS RESEARCH IN TEACHING AND LEARNING (PREREQUISITE(S) SCG 410 & PERMISSION REQUIRED)**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

**T&L 590 SECONDARY STUDENT TEACHING AND SEMINAR (FORMERLY CDG 590) (PREREQUISITE(S): PERMISSION REQUIRED)**

(formerly CDG 590) (8 quarter hours) Students will be placed for a minimum of 12 weeks in a secondary school. Seminar will meet once a week, in the participating schools and/or at DePaul. At first, they will focus on issues of immediate concern to student teachers. As the students gain experience the seminar will examine six or eight classroom issues; that is, topics which students have found to be significant on the basis of their experience. These would have found to be significant on the basis of their experience. These would include such things as assessment, evaluation, classroom management, curriculum planning, and relationships with colleagues. After delineating what the issues are, students would be expected to analyze and discuss readings which relate to the issues. PREREQUISITE(S): Application and approval required. Open only to DePaul student.

**T&L 591 SECONDARY STUDENT TEACHING SEMINAR**

COREQUISITE(S): T&L 590

**T&L 595 EARLY CHILDHOOD STUDENT TEACHING AND SEMINAR (PERMISSION REQUIRED)**

(12 quarter hours) Five school days a week of supervised teaching in a cooperating school for an academic quarter. Part of the teaching will be in a preprimary setting and part will be in a primary setting. Feedback and discussion of problems encountered in student teaching as well as new materials and techniques of student teaching will be included. PREREQUISITE(S): Application and approval required. Open only to DePaul students.

**T&L 596 EARLY CHILDHOOD STUDENT TEACHING SEMINAR**

COREQUISITE(S): T&L 595

**T&L 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter. PREREQUISITE(S): Non-Credit Course.

**T&L 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases.

**T&L 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might

take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "how theories work."

**T&L 610 INDUCTION INTO THE TEACHING PROFESSION: ELEMENTARY (PREREQ: STUDENT TEACHING & PRACTICING TEACHER)**

(formerly CDG 426) This course is designed to assist first-year elementary teachers to make the transition from student of teaching to teacher. The course creates a bridge between first-year teachers' formal education and the realities of their classrooms. In particular, the course provides assistance with the following: 1) understanding their induction into the profession; 2) analyzing their new educational contexts; 3) actualizing their educational philosophies; 4) developing their pedagogical knowledge; and 5) identifying and making the most of professional support systems within their schools. Prerequisite: Completion of student teaching or practicing teacher. PREREQUISITE(S): Student teaching and practicing teacher.

**T&L 611 INDUCTION INTO THE TEACHING PROFESSION: SECONDARY (WAS CDG 611) (PREREQUISITE(S): T&L 590)**

(formerly CDG 611) This course is designed to assist first-year secondary teachers to make the transition from student of teaching to teacher. The course creates a bridge between first-year teachers' formal education and the realities of their classrooms. In particular, the course provides assistance with the following: 1) understanding their induction into the profession; 2) analyzing their new educational contexts; 3) actualizing their educational philosophies; 4) developing their pedagogical knowledge; and 5) identifying and making the most of professional support systems within their schools. Prerequisite: Completion of student teaching or practicing teacher. PREREQUISITE(S): T&L 590 or practicing teacher.

**T&L 612 CRITICAL REFLECTION TEACHING AND CLASSROOM PRACTICE**

(formerly CDG 612) This course is designed to help practicing teachers learn more about their own teaching. They will be asked to raise, formulate and pursue questions about their own teaching and its relationship to student learning. In following this line of investigation, teachers study whole classrooms as well as select individuals. Teachers will enhance such skills as observing, listening, reflective and analyzing through employing techniques like clinical interviews, videotapes and lesson analysis. The course culminates with a paper that address what the teacher has learned about his/her own teaching and the nature and development of human learning. Prerequisites: being a first year teacher. PREREQUISITE(S): Student teaching, T&L 610 or T&L 611, and being a first-year teacher.

**T&L 613 NEGOTIATING CURRICULUM IN THE CLASSROOM (PREREQUISITE: STDNT TCH, T&L 610 OR 611, FIRST YR TCH)**

This course assumes that teachers are curriculum developers, not simply implementors of curriculum provided by tests and curriculum guides. It asks teachers to examine how written curricula are enacted in the classroom, highlighting the students' role in the process. They will be expected to follow a line of investigation based on gathering data from students prior to, during, and after implementation. This course culminates with a more refined piece of curriculum, as well as a paper that addresses the teacher's growth in understanding curriculum processes. PREREQUISITE(S): Student teaching, T&L 610 or T&L 611, and being a first-year teacher.

**T&L 614 INDUCTION INTO THE TEACHING PROFESSION: EARLY CHILDHOOD**

This course is designed to assist first-year early childhood teachers to make the transition from student teaching to teacher. The course creates a bridge between first-year teachers' formal education and the realities of their classrooms. In particular, the course provides assistance with the following: 1) understanding their induction into the profession; 2) analyzing their new educational contexts; 3) actualizing their educational philosophies; 4) developing their pedagogical knowledge; and 5) identifying and making the most of professional support systems within their schools. PREREQUISITE(S): Completion of student teaching or practicing teacher.

**T&L 615 SPECIAL TOPICS IN TEACHING AND LEARNING**

Current issues and problems in education will be discussed. Focus will be current research and best practice. Prerequisite: 30 quarter hours in graduate education.

**TELECOMMUNICATIONS****TDC 425 VOICE/DATA NETWORK FUNDAMENTALS**

This course covers a variety of fundamental topics in voice and data networking, including the structure of the public switched network, voice carrier services and premise equipment, Internet protocols and applications, and LAN applications and configuration. PREREQUISITE(S): Graduate Standing.

**TDC 432 COMPUTER & INFORMATION SYSTEMS MODELING**

Simulation, analytic modeling, and measurement of computer and information systems. Operational analysis. Introduction to queuing theory. PREREQUISITE(S): CSC 323, MAT 145, TDC 463.

**TDC 460 FOUNDATIONS OF COMMUNICATIONS SYSTEMS**

Details of communications systems architectures, including PSTN, broadcast, CATV, WANs, MANs, LANs, PANs, cellular, satellite, etc. Communications systems protocol models. Foundations of transmission media, signaling, coding, error detection and correction, addressing, routing, data compression, and access protocols. Network interfaces. Prerequisites: TDC 311 and TDC 361.

**TDC 461 BASIC COMMUNICATION SYSTEMS**

A history of telecommunications and regulatory and regulatory agencies. The basic communication model and its application to different communication systems, communication models. The telephone architecture, a typical data communication system, common carrier services, mediums and their characteristics. PREREQUISITE(S): PHY 405 and TDC 411 are recommended.

**TDC 462 DATA COMMUNICATIONS**

Theory and components of data communication systems, modes, codes, and error detection techniques for data transmission, network protocols and line control procedures, communication carrier facilities and system planning. PREREQUISITE(S): TDC 411 or CSC 345, MAT 145, CSC 323.

**TDC 463 COMPUTER NETWORKS AND DATA SYSTEMS**

A detailed discussion of the upper layers of network architectures. Network protocol organization will be discussed using TCP/IP as an example. IP addresses, subnetting,

supernetting, and CIDR. Routing algorithms. Transport layer protocols. Application layer protocols. Introduction to IPv6. PREREQUISITE (S) TDC 361 or equivalent (such as TDC 425).

**TDC 464 VOICE COMMUNICATION NETWORKS**

Basic structure of the public voice network. Principles of voice digitization. Digital and analog transmission, signaling and switching methods. Basic traffic analysis and engineering. PREREQUISITE(S): TDC 460.

**TDC 476 ECONOMICS OF TELECOMMUNICATION SYSTEMS**

Inventory concepts, asset amortization. Liabilities. Consolidated statements, cost accounting. Capital budgeting, investment decisions. PREREQUISITE(S): TDC 460.

**TDC 489 QUEUING THEORY WITH COMPUTER APPLICATION**

An overview of queuing theory. Queuing systems, related random processes, classification of queues. Priority queueing. Computer time sharing and multi-access systems. PREREQUISITE(S): TDC 432 or consent.

**TDC 511 TELECOMMUNICATIONS PRACTICUM**

Introduction to the functionality and management of voice and data communications equipment in the Telecommunications and Local Area Networks laboratories. Emphasis will be on practical understanding and experience through laboratory exercises. PREREQUISITE(S): TDC 460, 463, 464.

**TDC 512 CELLULAR AND WIRELESS TELECOMMUNICATIONS**

An overview of cellular telephony including regulatory framework, RF design and frequency reuse, signaling and wireline interconnection issues. Personal Communications Systems (PCS), mobile radio, satellite and paging systems will also be considered. PREREQUISITE(S): TDC 464.

**TDC 514 COMPUTER TELEPHONY**

A study of enabling technologies allowing the integration of voice communications services with personal computers, LANs and mainframes. Telephony programming interfaces, call management software, intelligent fax/data retrieval and interactive voice response systems will be considered. PREREQUISITE(S): TDC 463 and TDC 464.

**TDC 561 NETWORK PROGRAMMING**

The course covers the basic and advanced issues of TCP/IP networking programming such as multiple processes, I/O multiplexing, multi-threaded processes, multicasting and secure network programming. Application examples such as Internet browsing, instant messaging, proxy filtering and file transfer protocols are discussed. PREREQUISITE(S): TDC 463 and CSC 309 or DS 420.

**TDC 562 COMPUTER-COMMUNICATION NETWORK DESIGN & ANALYSIS**

This course provides an in-depth study of Internet protocols from the perspective of network planning, simulation and troubleshooting. The course includes in-depth study of Internet traffic, traffic measurement techniques, network planning and simulation using simulation tools, and packet management techniques. PREREQUISITE(S): TDC 463.

**TDC 563 PROTOCOLS AND TECHNIQUES FOR DATA NETWORKS**

Advanced topics in TCP/IP including IPv6, TCP traffic control, routing protocols, multicast routing protocols, and upper layer protocols supporting Quality of Service (QoS) in the new generation of the Internet; compression techniques; introduction to SNA and APPN, SNA and TCP/IP integration. PREREQUISITE(S): TDC 463.

**TDC 564 LOCAL AREA NETWORKS**

A detailed discussion on LAN technologies, including standards, protocols, network equipment, design, deployment, and management. The focus is on Ethernet as specified in IEEE 802.3 (10M to 10G) as well as other IEEE specifications such as IEEE 802.1 (bridging), 802.11 (Wireless LAN), and their extensions. The course also introduces applications of LAN technology, such as Metro LAN and ATM LAN. PREREQUISITE(S): TDC 460 and TDC 463.

**TDC 565 VOICE AND DATA INTEGRATION**

Methods for data transmission and switching over Wide Area Network telecommunications facilities. DDS and T1 networking. Alternate voice digitization techniques. Microwave, satellite and fiber optic transmission systems. Structure and evolution of the digital telecommunications network. PREREQUISITE(S): TDC 464.

**TDC 566 INTEGRATED SERVICES DIGITAL NETWORKS**

A study of the Integrated Services Digital Network (ISDN) including its structure, services and protocols. How current network switching and transmission methods must be modified and expanded to allow integration of voice and data services. A survey of current LEC and IXC ISDN offerings. Future trends in integrated communication networks. PREREQUISITE(S): TDC 463 and TDC 464.

**TDC 567 TELECOMMUNICATION SYSTEMS DESIGN AND MANAGEMENT**

The theory and practice of Telecommunication system design. Ongoing systems management. Telecommunication management including selection of vendors/systems, structuring an RFP systems proposal analysis, computer aided telecommunications management. Telecommunication management strategies from a business perspective. PREREQUISITE(S): TDC 463 and TDC 464.

**TDC 568 NETWORK MANAGEMENT**

The five major areas of network management--fault management, performance management, security, accounting and configuration management--are discussed. Advanced topics such as fault diagnosis and isolation, event correlation, MIB design, SNMP programming, performance monitoring, service level agreements and network security architectures are also discussed. PREREQUISITE(S): TDC 463.

**TDC 569 TELECOMMUNICATION REGULATION, POLICY, LAW AND STANDARDS**

Policy-making entities. Domestic and International regulation. Equipment certification. Tariffs. Types of standards. Standard making entities. Standard making process. PREREQUISITE(S): TDC 463 and TDC 464.

**TDC 572 NETWORK SECURITY**

Network infrastructure security issues, including perimeter security defense, firewalls, Virtual Private Networks, Intrusion Detection Systems, wireless security, network security auditing tools and ethical considerations. Strategies for the deployment of "Defense-In-Depth" mechanisms in an enterprise computing environment. Pre-requisite(s): TDC 463 Computer Networks or consent from instructor (CSC 390 Foundations of Information Assurance recommended).

**TDC 573 MULTIMEDIA NETWORKING**

This course addresses the concepts, architecture and design of Quality of Service (QoS) networks and distributed multimedia systems. Key issues in designing networked multimedia systems are discussed, including reliable multi-point communication/IP multicasting, media coding and compression, audio/video streaming, audio/video transmission, media synchronization, multimedia traffic demands and requirements,

congestion control and scheduling. PREREQUISITE(S): TDC 561.

**TDC 593 TOPICS IN TELECOMMUNICATIONS**

This is an independent study course. PREREQUISITE(S): Consent of instructor. Independent study form required.

**TDC 597 TOPICS IN DATA COMMUNICATIONS**

This is an independent study course. (PREREQUISITE(S):Consent of instructor. Independent Study form required).

**TDC 690 RESEARCH SEMINAR**

Readings and discussion on current research topics. Students may register for this course no more than twice. PREREQUISITE(S): Consent of the instructor.

**TDC 696 MASTER'S PROJECT**

(4 credit hours) Students may register for this course only after their advisor has approved a written proposal for their project. PREREQUISITE(S): Consent of advisor. Independent study form required.

**TDC 698 MASTER'S THESIS**

(2 credit hours) Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. PREREQUISITE(S): Consent of advisor. Independent study form required.

**THEATRE TECHNOLOGY**

**TEC 571 TECHNICAL PRODUCTION PRACTICE:GRADUATE I**

**TEC 572 TECHNICAL PRODUCTION PRACTICE:GRADUATE I**

**TEC 573 TECHNICAL PRODUCTION PRACTICE:GRADUATE I**

**TEC 599 INDEPENDENT STUDY**

**TEC 671 TECHNICAL PRODUCTION PRACTICE: GRADUATE II**

**TEC 672 TECHNICAL PRODUCTION PRACTICE: GRADUATE II**

**TEC 673 TECHNICAL PRODUCTION PRACTICE: GRADUATE II**

**TEC 771 TECHNICAL PRODUCTION PRACTICE: GRADUATE III**

**TEC 772 TECHNICAL PRODUCTION PRACTICE: GRADUATE III**

**TEC 773 TECHNICAL PRODUCTION PRACTICE: GRADUATE III**

## **THEATRE STUDIES**

### **THE 599 INDEPENDENT STUDY**

### **THE 601 GRADUATE SEMINAR**

Three quarter hours. The course familiarizes the student with the requisites of the thesis project and prepares the student to successfully complete this graduate requirement. Additionally, students review material in preparation for the comprehensive exam in the history of theatre and dramatic literature. (prereq)

### **THE 602 GRADUATE SEMINAR**

Three quarter hours. The course familiarizes the student with the requisites of the thesis project and prepares the student to successfully complete this graduate requirement. Additionally, students review material in preparation for the comprehensive exam in the history of theatre and dramatic literature. (prereq)

### **THE 603 GRADUATE SEMINAR**

Three quarter hours. The course familiarizes the student with the requisites of the thesis project and prepares the student to successfully complete this graduate requirement. Additionally, students review material in preparation for the comprehensive exam in the history of theatre and dramatic literature. (prereq)

## **WOMEN AND GENDER STUDIES**

### **WMS 400 FEMINIST THEORIES (CROSS-LISTED AS MLS 440, WMS 300)**

A discussion and assessment of the various theories concerning the place of women in society, including theories that have advocated a more positive role for and valuation of women than those of the dominant society. The course will take both a historical and a topical approach. (Cross-listed as MLS 440 and WMS 300)

### **WMS 405 WOMEN AND KNOWLEDGE (CROSS-LISTED AS WMS 305, MLS 468, PHL 661)**

This course studies the impact of the current women's movement on our understanding of knowledge, learning and the institutions that define and provide them. (Cross-listed as WMS 305, MLS 468, and PHL 661)

### **WMS 407 WOMEN IN THE MIDDLE EAST: BEYOND THE VEIL**

This course explores how Middle Eastern Women have been represented in the media outside of the Middle East, by Arab women scholars, and "Third World" feminists and challenges these representations by focusing on issues such as veiling, the everyday lives of Middle Eastern Women, political activism, literary works, economics and social class, and media representations.

### **WMS 410 FEMINIST ETHICS**

This course explores theoretical issues regarding women's moral experience and feminist approaches to liberation from various forms of socio-cultural and political oppression. It explores the moral status of women from their own experiences and

perspectives, in contrast to traditional Western ethics characterizations. It examines and evaluates the ethic of care as an alternative moral perspective and investigates a variety of themes and values discerned in women's moral experiences. It explores feminist ethical perspectives on oppressive social practices, such as racism and violence against women, and examines the ethical dimensions of difference among women.

#### **WMS 412 CONTEMPORARY FEMINIST SEX DEBATES**

This course examines, analyzes, and engages in contemporary debates over sexual identities, desires, and practices along with their relationship to gender, race, class, and national politics. Some of the issues to be considered include institutionalized heterosexuality; lesbian, gay, and bisexual identities; sexual double standards; sexual "deviance" and transgression; pornography; prostitution; and gendered and transgendered identifications, among others.

#### **WMS 414 ANTIRACIST FEMINISMS**

This course introduces students to the wide array of feminist thinking regarding ideologies of race, racism, white privilege, ethnocentrism, racial and ethnic identifications, and their relationship to gender, class, sexual and national identities and locations. The ways that racism has divided women's movements and feminist organizations will be examined along with the work of feminist scholars, writers, activists, and advocates who have articulated explicitly anti-racist theories, analyses, and programs within the U.S. as well as internationally.

#### **WMS 416 REPRESENTATIONS OF THE BODY**

This course reflects the current explosion of intellectual interest in the body as a site of cultural meaning. We will enter this discussion by examining how the body, which seems to be a natural, universal fact, is also a deeply cultural symbolic construction. The readings attempt to capture the complexity of this evolving field using a multidisciplinary approach, including such fields as history, art, medicine, philosophy, religion, sociology, women's studies, and cultural studies.

The course addresses the questions of how the body is socially created and sustained. It explores those questions in terms of tensions between nature and culture (to what extent is the body natural? cultural?), body and spirit (what does human "embodiment" mean? are we our physical bodies -and nothing else?), and how discourses of power converge in and on the body (gender/race/class/age/ability). Course topics include: the meaning of physical pain in Western history; the personal experience of and social construction of race in the U.S., with its background assumptions about skin color; the social constructions of gender, sexualities, and sexual desire; personal experience and the cultural "readings" and representations of male and female, old, disabled, and transgressive bodies; socio-cultural "readings" of physical violence pertaining to both victim and perpetrator.

#### **WMS 422 FEMALE IDENTITIES: YOUNG ADULT LITERATURE (CROSS-LISTED AS WMS 322)**

This course is an introduction to Young Adult Literature as a genre and explores how this literature relates to adolescent girls' experiences in diverse cultural contexts. It addresses themes related to physical and emotional development, the development of personal values and beliefs; the construction of identity; beliefs and attitudes about the body; interpersonal relationships; gender and sexuality; and coping with change, death, belonging, alienation, and escape. Course materials are multicultural with a focus upon the experiences of female adolescents in terms of ethnicity, culture, gender, religion, disability, as well as other dimensions of difference within national and international contexts.

**WMS 424 WOMEN IN THEATRE: A GLOBAL PERSPECTIVE**

This course examines the concepts of gender and theatrical performance with reference to history, culture, critical response, viewer interpretation, and identity in a global context. Students will study character as a dramatic image with respect to gender, race, and class; examine how dramatic images are as diverse as their cultural contexts; explore the concepts of reader and viewer response to theater; and interrogate the relationship between the American theatrical image and the larger global context within which images are created.

**WMS 432 CREATING CHANGE: CONTEMPORARY GLBT POLITICS**

This course explores the historical roots and contemporary realities of gay, lesbian, bisexual and transgendered (GLBT) politics, nationally and internationally. GLBT groups and individuals are gaining political recognition, challenging institutions, and creating change by asserting claims to rights and protections under law. Such issues as hate crimes, marriage, AIDS, and ballot initiatives over non-discrimination law and policy have entered the political mainstream since the 1970's. This course examines the GLBT movement, its political and social strategies, conflicts and issues, and the political roles played by its members as participants in political culture.

**WMS 439 DIVIDED SISTERS**

This course explores in depth the historical, political, social, and emotional nature of relationships between Black women and White women in America. Societal constructions of race and gender, along with the constant interplay of class, sexual orientation, and other dimensions of difference will be identified, as will key themes and defining tensions and points of connections in women's cross race relations. The course aims to improve understanding of the history between African American and European American women, to gain awareness of the political tensions stemming from with Civil Rights and Women's Liberation movements, to gain understanding of the shared and varying beauty concerns of Black women and White women in this culture, and to develop strategies for improving communication and cooperation between women of varying racial identities.

**WMS 440 GENDERED COMMUNICATION (CROSS-LISTED W/CMN 523)**

Examines research into the ways the various aspects of communication are affected by and affect the social construction of gender. Topics covered include language and language usage differences, interaction patterns and perceptions of the sexes generated through language and communication. (Cross-listed as CMN 523)

**WMS 442 GENDER AND LIFE:NARRATIVE RESEARCH (CROSS-LISTED WITH WMS 342)**

This course examines the qualitative research methodology of life narratives: conducting and transcribing interviews, developing narratives, and choosing methods of presentation and preservation. Students will collaborate with a specific grassroots community group that seeks to give voice to its members' experience as they struggle with particular issues and perspectives concerning the intersection of gender, race/ethnicity, class, sexuality and religion. As students critically analyze these experiences and examine them through different disciplines and transnational readings, they will participate with members to develop empowerment strategies. By the acquisition of knowledge and skills concerning life narrative research, students in this course will be encouraged to explore ways that they and local groups can create their own community and come to common understanding about critical issues. This course affords students opportunities to experience direct links between academic scholarship, community activism, and social justice.

**WMS 450 SELECTED TOPICS ON WOMEN IN LITERATURE**

Topics vary. See schedule for current offering. (Cross-listed as MLS 477 and SOC 470)

**WMS 455 WOMEN AND ART**

Examines the work of the most significant women artists from the Renaissance to the present. It will also investigate how women have been represented in Western art by both male and female artists. (Cross-listed as MLS 474 and ART 356)

**WMS 460 GENDER AND SOCIETY (CROSS-LISTED AS MLS 447 & SOC 470)**

Attention to the growing literature and empirical research on changing patterns in economic, psychological, and social outcomes for women and men. Consideration of various theories of gender differentiation and equality. (Cross-listed as MLS 447 and SOC 470)

**WMS 470 ADVANCED PSYCHOLOGY OF WOMEN (CROSS-LISTED AS PSY 561/MLS 478)**

A review of research and theory on women including sexist biases and methodology, feminist therapy, violence against women, and gender differences in the development of power and sexuality. (Cross-listed as MLS 478 and PSY 561)

**WMS 480 SELECTED TOPICS: WOMEN, SELF AND SOCIETY**

Topics vary. See schedule for current offerings. (Cross-listed as MLS 468 and WMS 394)

**WMS 490 WOMEN ACROSS CULTURES (CROSS-LISTED AS MLS 441, WMS 390)**

A critical analysis of the roles of women in societies around the world, with special emphasis on economics, politics and culture. Focus is on African, Asian and Latin American cultures and nondominant groups within Western societies. Topics vary each quarter. (Cross-listed as MLS 441 and WMS 390)

**WMS 491 METHODS AND SCHOLARSHIP IN WOMEN'S STUDIES (CROSS-LISTED AS WMS 391)**

An exploration of the transforming effects that feminist methodologies and scholarship have had in the social sciences and humanities. This course emphasizes interdisciplinary research approaches, feminist publishing, and the interplay of research and activism, as it prepares students to write a research proposal. PREREQUISITE(S):WMS 400. (Cross-listed as WMS 391)

**WMS 495 SPECIAL TOPICS IN WOMEN'S STUDIES**

Topics vary. See schedule for current offerings.

**WMS 498 FOREIGN STUDY**

**WMS 499 INDEPENDENT STUDY (PERMISSION OF PROGRAM DIRECTOR REQUIRED)**

Permission of Women's Studies Program Director required.

