Course Catalog

College of Computing and Digital Media Undergraduate Studies

Summer/Autumn 2011-2012

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General Information

Catalog Version

Undergraduate Update: May 15, 2011

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College of Computing and Digital Media (CDM)

About the College

DePaul's **College of Computing and Digital Media** (CDM) is organized into two schools: the **School of Computing** (SoC) and the **School of Cinema and Interactive Media** (CIM) featuring 16 degree programs designed to keep pace with the latest developments in technology while remaining grounded in the liberal arts and sciences. As one of the largest IT programs in the nation, DePaul CDM has a reputation for offering an extraordinary selection of degree programs and courses from traditional computer science, information systems, and network technologies to game development, digital cinema, animation, and our newest undergraduate program in graphic design. At CDM, students will experience a dynamic interdisciplinary curriculum and the opportunity to explore their academic curiosity through 24 minor concentrations that reflect the diverse offerings of CDM's majors.

Administration

DAVID MILLER, PH.D.
Dean
LUCIA DETTORI, PH.D.
Associate Dean
MARTIN KALIN, PH.D.
Associate Dean
LIZ FRIEDMAN, PH.D.
Assistant Dean of Student Services

Student Services

Assistant Dean of Student Services

LIZ FRIEDMAN, PH.D.

Advising Staff

JOHN GLATZ
Director of Advising

BECKY KROCHMAL
Assistant Director of Advising

JIGBIE AGUIRRE
Academic Advisor

SHANNON RESOWSKI
Academic Advisor

Undergraduate Admissions

SARAH PIECZYNSKI
Director of Undergraduate Services

Facilities

DePaul University maintains an extensive technological infrastructure which is available for students, faculty and staff. In addition, many schools and departments maintain their own resources dedicated for use by their own constituents.

The College of CDM itself operates specialized laboratories in the following:

- Requirements Engineering Lab
- Mobile Commerce Lab
- Solid Objects and Graphics Lab
- Animation Lab
- Network Security Lab
- Game Development Lab
- Console Gaming Lab
- Digital Cinema Advanced Editing Lab
- High Definition Editing Suite
- Medical Informatics Lab
- Digital Cinema Studio
- Usability Testing Lab
- Intelligent Multimedia Processing Lab
- Supercomputing Cluster Lab
- Software Research Lab
- Multimedia Networking Lab
- Centre for Web Intelligence
- E-Commerce Technology Lab

More information on Labs and Resources at CDM.

Admission

Undergraduate Admission to the College of Computing and Digital Media

Candidates interested in admission to the College of Computing and Digital Media should direct all inquires to the Office of Admission, DePaul University, 1 E. Jackson Boulevard, Chicago, Illinois, 60604, admission@depaul.edu , or (312) 362-8300.

For general information on the types of admission, see University Information, Admission .

Academic Advisement

The College believes that academic advising is necessary for the vitality and success of the student's

undergraduate education. Students are assigned a faculty advisor upon admission to the school. All students are encouraged to meet with their faculty advisor at least once each year for assistance in planning a course of study that best reflects their academic and career interestes, skills, and lifestyle.

Professional Development

The College of Computing and Digital Media established the Institute for Professional Development in 1985 to offer certificate programs designed to meet the needs of both individuals and businesses in the Chicagoland area. These non-degree offerings provide intensive training in a wide variety of areas, with each standalone certificate program addressing a different set of theoretical concepts and practical skills. Emphasis is placed on gaining practical experience through a combination of lectures and demonstrations complemented by laboratory exercises and homework assignments. Certificate programs are typically taught by a team of instructors, that includes both full-time faculty and part-time instructors from industry. The programs require a substantial commitment of time, as most meet two nights per week and in the morning on approximately half of the Saturdays during the program.

For application and registration information pertaining to the certificate programs offered by the Institute for Professional Development, please call the Institute office at (312) 362-6282.

Current certificate program offerings include:

IPD 354 Cloud Computing Infrastructure and Operations Program
A 6-week program in the architectures, infrastructure, and operations of Cloud Computing

IPD 355 Cloud Computing Fundamentals Program
An 11-week program in the principles, methods, and technologies of Cloud Computing

IPD 356 Web Development with Ajax Technologies Program
A 7-week program covering Web development with Ajax technologies

IPD 357 Wireless LAN Security Program
An 8-week program covering the latest solutions in wireless LAN security

IPD 358 SharePoint Developer Program
A 10-week comprehensive program covering Microsoft SharePoint development

IPD 359 Web Development with Python Program
A 5-week program covering Web development with the Python programming language.

IPD 360/460 SQL Server Business Intelligence Program
An 11-week in-depth program covering SQL Server analysis services, integration services, and reporting services

IPD 363 SQL Server Database Administration Program
An 11-week in-depth program covering database administration using SQL Server

IPD 364 Lightweight Java Web Development Program
An 8-week comprehensive program covering open-source, lightweight Java enterprise Web development using POJOs (Plain Old Java Objects)

IPD 365 Ruby on Rails Program
A 8-week in-depth program covering Web development using Ruby on Rails

IPD 366 Java Web Services Program
A 7-week concentrated program covering service-oriented architecture and the development of Web services using Java

IPD 370 Advanced SQL Program

A 2-week program covering advanced Structured Query Language (SQL) features

IPD 380 IT Project Management Program
A 10-week comprehensive program covering best practices in IT project management

IPD 382 Java Developer Program
A 10-week comprehensive program covering object-oriented applications development using Java

IPD 389 .NET Developer Program
A 10-week comprehensive program covering .NET technologies

Transfer Credit

Prospective students may transfer credit from an accredited college to DePaul University. All transfer credit will be initially evaluated by an Admission counselor; final course placement will be made by an academic advisor in the College of Computing and Digital Media (CDM). For specific information governing transfer admission and evaluation of credit, please consult the DePaul University Undergraduate Transfer webpage. Current CDM students may take courses at another accredited college either in the summer or during the regular school year and transfer the credit back to DePaul University only with prior approval from the students academic advisor.

Grades and Credit Hours Requirements

Grades

Students must earn grades of C or above in all courses taken for credit in the major field. Grades of C- may be accepted for major field credit provided the overall grade point average within the major is 2.0 or above. All other courses require grades of D or better.

Credit Hours

All students must complete a minimum of 192 quarter hours of college credit.

Minors

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

MINORS IN THE COLLEGE OF COMMERCE

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the

College of Commerce Section for Minor Requirements.

MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. **CDM offers several minors that will appeal to all DePaul University students.**

Political science and *geography* majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

Communications majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give *Commerce* students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

Policies for Academic Minors
Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

CDM Minors for CDM Students

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

Note: If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, ie. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema

- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

CDM Minor Requirements

Animation Minor

ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
ANI 231	3D Animation
ANI 206	History of Animation

3 courses from the following list: (at least 1 must be ANI)

DC 201	Introduction to Screenwriting
DC 210	Digital Cinema Production I
DC 220	Editing I
Any ANI course	

Computer Graphics Software Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
or **GD 105**	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Enviro nments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 372	Principles of Computer Animation

Computer Science Minor

CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
and **CSC 309**	Object-Oriented Programming in C++
or	

CSC 261	Programming Languages I: C/C++
and **CSC 262**	Programming Languages II: C/C++
and **CSC 224**	Java for Programmers
CSC 393	Data Structures in C++
or **CSC 383**	Data Structures and Algorithms in Java
MAT 140	Discrete Mathematics I
CSC 373	Computer Systems I
CSC 374	Computer Systems II

Data Analysis and Data Mining Minor

IT 240	Introduction to Desktop Databases
IT 223	Data Analysis
CSC 324	Data Analysis and Statistical Software II
CSC 367	Introduction to Data Mining
CSC 334	Advanced Data Analysis
2 CDM Electives	

Database Minor

CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
IT 223	Data Analysis
IT 240	Introduction to Desktop Databases
CSC 352	Database Programming
CSC 367	Introduction to Data Mining
1 CDM Elective	

Data Visualization Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 323	Data Analysis
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 372	Principles of Computer Animation
GPH 380	Visualization

Digital Cinema Minor

DC 205	Foundations of Cinema
DC 225	Digital Still Photography
DC 201	Introduction to Screenwriting
DC 220	Editing I

3 courses from the following list:

ANI 101	Animation for Non-Majors
DC 210	Digital Cinema Production I
DC 270	Topics in Digital Cinema

DC 215	Digital Sound Design
DC 275	Cinematography
DC 310	Digital Cinema Production II
DC 320	Editing II
DC 389	The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130	The Internet and the Web
CSC 211	Prorgamming in Java I
CSC 212	Programming in Java II
IT 230	Building Internet Applications
ECT 330	Advanced Internet Application Development
IM 210	Introduction to Human-Computer Interaction

1 course from the following list:

ECT 355	Internet Systems: Collaboration, Commerce, and Media
ECT 360	Introduction to XML
ECT 365	Web Server Operations

Game Design Minor

DC 201	Introduction to Screenwriting
ANI 105	Intro to Visual Design
ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I
GAM 245	Game Development II

Game Programming Minor

GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I
GAM 245	Game Development II
GAM 374	Action Games Programming

2 courses from the following list:

ANI 230	3D Design & Modeling
GPH 321	Computer Graphics Development I
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II

Any other 300-Level **GAM or GPH** course

Graphic Design Minor

GD 105	Intro to Visual Design
GD 200	Graphic Design I
GD 300	Graphic Design II
GD 230	Typography

3 courses from the following list and/or any GD course (at least 1 must be GD):

ANI 101	Animation for Non-Majors
ANI 201	Animation I

ANI 230	3d Design and Modeling
ANI 260	Motion Graphics
ANI 360	Advanced Motion Graphics
DC 125	Digital Still Photography for Non-Majors
DC 220	Editing I
DC 225	Digital Still Photography
DC 321	Production Design
DC 376	Visual Design
IM 220	Interactive Media I
IM 222	Information Visualization
IM 320	Interactive Media II
IM 270	User-Centered Web Design
IT 130	The Internet and the Web

2 of the following courses may substitute for 1 course:

GD 350	Portfolio Workshop
GD 150	Illustrator Workshop
GD 151	Photoshop Workshop
GD 152	Digital Typography Workshop

Information and Computing in the Modern World Minor

ECT 350	Internet, Commerce and Society
HCI 201	Multimedia and the World Wide Web
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
CSC 223	The Impact of Computing Technology on Our Lives
or **IT 228**	Ethics in Computer Games and Cinema
or **CSC 208**	The Computer and Social Responsibility
or **IS 208**	Information Technology, Economy and Society
IS 356	Knowledge Management Systems
or **IS 374**	Management Support Systems
or **IT 398**	Topics in Global Information Technology

Interactive Media Minor

Required Courses

HCI 201	Multimedia and the World Wide Web
or **IT 130**	The Internet and the Web
IM 210	Introduction to Human-Computer Interaction
GD 105	Intro to Visual Design
or **GPH 211**	Perceptual Principles for Digital Environments
IM 220	Interactive Media I
IM 270	User-centered Web Design

2 courses from the following list:

IM 222	Information Visualization
IM 208	Virtual Worlds and Online Communities
IM 230	Scripting for Interactive Media
IM 320	Interactive Media II
IM 330	Advanced Scripting for Interactive Media
IT 231	Web Development I
IM 320	Interactive Media II

Information Systems Minor

IT 240	Introduction to Desktop Databases
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
IS 372	Fundamentals of Software Project Management
IS 373	Introduction to Large Systems Implementation

Information Technology Minor

IT 130	The Internet and the Web
IT 231	Web Development I
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
or **TDC 261**	Basic Communication Systems
IT 215	Analysis and Design Techniques
1 CDM Elective	

Network Technology Minor

CSC 211	Programming in Java I
or **CSC 261**	Programming Languages I:C/C++
CSC 212	Programming in Java II
or **CSC 262**	Programming Langauge II:C/C++
IT 201	Introduction to Information Systems
IT 263	Applied Networks and Security
TDC 362	Principles of Data Communication
TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies

Screenwriting Minor

DC 201	Introduction to Screenwriting
DC 222	Classic Hollywood Film Structure
DC 301	Advanced Screenwriting I
DC 302	Advanced Screenwriting II
DC 303	Advanced Screenwriting III
DC 304	Topics in Screenwriting

Security Minor

CSC 211	Programming in Java I
and **CSC 212**	Programmingin Java II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
CSC 233	Codes and Cyphers
or **CSC 333**	Cryptology
CNS 378	Host and Information Security
CNS 320	Computer Forensic and Incident Response
CNS 228	Legal,Ethical and Social Issues in Information Security
CNS 340	Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130	The Internet and the Web

and **IT 231**	Web Development I
and **IT 232**	Web Development II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
or	
CSC 211	Programming inJava I
and **CSC 212**	Programming in Java II
CNS 228	Legal, Ethical and Society Issues in Information Security
CSC 233	Codes and Ciphers
CNS 320	Computer Forensic and Incident Response
CNS 340	Fundamentals of Information Assurance

Software Engineering Minor

CSC 261	Programming Languages I:C/C++
and **CSC 262**	Programming Languages II:C/C++
and **CSC 224**	Java for Programmers
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
CSC 212	Programming in Java II
and then	
CSC 383	Data Structures and Algorithms in Java
SE 325	Principles and Practices of Software Engineering
SE 330	Object-Oriented Modeling
SE 350	Onject -Oriented Software Development

Sound Design Minor

DC 215	Digital Sound Design
DC 312	Music for Film and Video
DC 313	Production Sound
DC 315	Advanced Digital Sound Design
3 courses from the following list	
GAM 250	Digital Sound for Computer Games
DC 317	Advanced Sound Mixing for Cinema
DC 318	Advanced Dialogue Recording and Editing
DC 319	Advanced Sound Effects Recording and Editing
DC 313	Sound for Multimedia
DC 203	History of Motion Picture Sound

Television Production Minor

DC 210	Digital Cinema Production I
DC 220	Editing I
DC 271	Introduction to Television Production
DC 272	Writing for Television

TV 289	The Business of Television
TV 320	Editing for Television
TV 301	Television Program Development
DC 372	Topics in TV Production

Visual Computing Minor

MAT 140	Discrete Mathematics I
or **MAT 220**	Linear Algebra with Applications
or **1** quarter of Calculus (Prerequisite for CSC 381)	
IT 223	Data Analysis (Prerequsite for CSC 367)
CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis
IT 300	Research Experience
CSC 367	Introduction to Data Mining (IT 223 requirement)

Visual Effects Minor

ANI 230	3D Design & Modeling
ANI 379	Advanced 3D Compositing
DC 220	Editing I
DC 325	Color Correction
VFX 200	Introduction to Visual Effects
VFX 278	Digital Compositing I
VFX 378	DIgital Compositing II

Programs in CDM

Current Degree Descriptions

Bachelor of Science Degree Programs

School of Computing

Computer Game Development (joint with CIM)
Computer Graphics and Motion Technology (joint with CIM)
Computer Science
Information Assurance and Security Engineering
Information Systems
Information Technology
Interactive Media (joint with CIM)
Math and Computer Science (joint with LA & S)
Network Technologies

School of Cinema and Interactive Media

Animation
Computer Game Development (joint with SoC)
Computer Graphics and Motion Technology (joint with SoC)
Digital Cinema
Interactive Media (joint with SoC)

Bachelor of Arts Degree Programs

School of Cinema and Interactive Media

Animation
Digital Cinema

School of Computing

Computing (joint with SNL)
Information Technology

Bachelor of Fine Arts Degree Programs

School of Cinema and Interactive Media

Graphic Design

Special Programs

Combined Bachelor/Master Degree Programs

Professional Development Programs

Minors

School of Computing (SoC)

About the School of Computing

The **School of Computing** (SoC) houses CDM's technical degrees. With an emphasis on the theoretical as well as practical, students can earn degrees that prepare them for work in computing, programming, data storage, information processing, network security, software development, and computer graphics and motion technology.

Faculty

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CURT WHITE, Ph.D.
Associate Professor
Wayne State University

CHARLES WILCOX, B.A.
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Southern Illinois University

ROSALEE WOLFE, Ph.D.

Professor
Indiana University

JAMES YU, Ph.D.
Associate Professor
Purdue University

Liberal Studies Program and Modern Language Option

The Liberal Studies Program is the common curriculum taken by all students in the seven undergraduate colleges of DePaul University. Overall, the Program is designed to develop students writing abilities, computational and technological proficiencies, and critical and creative thinking skills.

Each major in the University has unique Liberal Studies requirements.

Please consult the Liberal Studies catalog for your relevant requirements as a CDM student as well as for information about the Modern Language Option.

CDM Liberal Studies Courses

CDM Liberal Studies Courses

CDM offers dozens of courses in many domains of the Liberal Studies Program. You can experiment with Screenwriting, Digital Photography, Game Design, Computer Graphics and Programming and fulfill a requirement at the same time. Many of these courses also serve as gateway courses into more advanced CDM courses. Courses can be grouped in two lists:

- Liberal Studies Course Offered by CDM
- CDM Liberal Studies Courses Offer by CDM - Grouped by Topic

Click to view Restrictions for CDM Students

Liberal Studies Courses Offered by CDM

This list represents Liberal Studies Program (LSP) courses taught by CDM only. For a complete list of LSP coures, visit the Liberal Studies homepage.

- Arts and Literature

    - ***ANI 101*** *Animation for Non-Majors*
      Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology.
    - ***ANI 206*** *History of Animation*
      History of Animation: This course is an introduction to the history and development of the field of animation.
    - ***DC 113*** *Audio for Podcasts and Other Media*
      This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote,

PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.

- ***DC 202*** *History of Motion Picture Editing*
  This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course adddresses this question.
- ***DC 125*** *Digital Still Photography for Non-Majors*
  This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.
- ***DC 120*** *Video Editing*
  Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student's understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.
- ***DC 201*** *Introduction to Screenwriting*
  This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.
- ***DC 205*** *Foundations of Cinema*
  Acquisition and computer representation of sound and image. Sound and video standards. Lossy and Lossless compression. Basic computer graphics and rendering. Distribution of digital information.
- ***DC 207*** *History of Cinema I, 1890-1945*
  This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting_ filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and as an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length, narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.
- ***DC 208*** *History of American Cinema, 1946-1975*
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.
- ***DC 209*** *History of Cinema, 1975-Present*
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permuations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealth with the formal influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.
- ***DC 222*** Story Structure in Cinema
  This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.
- ***DC 233*** *Cinema & Art*
  This course will provide an overview of avant-garde film, video, animation and installation, and

the relationship of these cinematic forms to Modern and Contemporary art.
- ***DC 250*** *Working with Actors 1*
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.
- ***GAM 224*** *Introduction to Game Design*
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.
- ***GD 200*** *Graphic Design I*
  This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.
- ***GD 210*** *Digital Illustration I*
  Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.
- ***GD 220*** *History of Design I*
  The history of graphic design is an evolution in aesthetics, technology, style and visual communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.
- ***GPH 211*** *Perceptual Principles for Digital Environments I*
  An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.
- ***GPH 212*** *Perceptual Principles for Digital Environments II*
  Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization.
- ***GPH 213*** *Perceptual Principles for Digital Environments III*
  These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them!

- Junior Experiential Learning Credit

  - ***CSC 298*** *Internship*
    Computer Science Internship in cooperation with local employers this course offers students the opportunity to integrate their academic experience with on-the-job training in computer related work areas.
  - ***CSC 378*** *Software Projects for Community Clients*
  - ***CSC 379*** *Technology Partnerships in Urban Schools*
    Students in this course will have the opportunity to assess urban community needs in the technology arena and develop skills in assisting and developing methods for bridging the digital divide that exists.
  - ***DC 298*** *Internship in Media Production/Post-Production*
    This course offers students an excellent opportunity to gain professional experience, industry contacts, and referrals while still in school. Opportunities in post-production, motion picture production, advertising, television, animation, motion graphics and interactive media. Admission to the program requires consent of internship course instructor. Current work experience plus classroom time is required. Supervisor evaluation will contribute to the final grade.
  - ***DC 380*** *Project Bluelight*
    Production of a feature-length digital motion picture written by students or faculty within the Digital Cinema program.
  - ***GD 380*** *Design for Client and Community*
    This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.
  - ***GPH 360*** *Modeling Spaces*
    The digital design and modeling of environmental spaces with attention to human use parameters.

- ***IT 300*** *Research Experience*
  This course involves the exploration of a research topic under the supervision of a research advisor.
- ***IT 398*** *Topics in Global Information Technology*
  This course focuses on current topics in the information and communications technologies that together support the "networked world." Sample topics are global software development and deployment, global data and information management, and cross-cultural project management for information systems. The course may be offered for variable credit hours (2, 4, 8, 16, and 32).

- Scientific Inquiry

  - ***CSC 200*** *Survey of Computing*
    Learn about careers using computers and pick up some skills to help you manage your own PC or network!
  - ***CSC 211*** *Programming in Java I*
    CSC 212 *Programming in Java II*
    Two courses in programming JAVA, a cross-platform, web-enabled language.
  - ***CSC 233*** *Codes and Ciphers*
    A history of code making and breaking and the math and (computer) science behind it
  - ***CSC 235*** *Problem Solving*
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning.
  - ***CSC 239*** *Personal Computing*
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.
  - ***CSC 250*** *Computers and Human Intelligence*
    Students taking this course wll study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.
  - ***CSC 255*** *Information Structures and Representations*
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.
  - ***CSC 261*** *Programming in C++ I*
  - ***CSC 262*** *Programming in C++ II*
    Two courses in programming C++
  - ***ECT 250*** *Internet, Commerce, and Society*
    Ever shop online? Learn the basics behind how these kinds of web sites function
  - ***HCI 201*** *Multimedia and the World Wide Web*
    Overview of the Web, its origins and capabilities. Create your own sample web page.
  - ***IM 222*** *Information Visualization*
    This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.
  - ***IT 130*** *The Internet and the Web*
    Learn to design your own web site!
  - ***IT 223*** *The Internet and the Web*
    Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.
  - ***IT 236*** *User Interface Development* The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.
  - ***IT 240*** *Introduction to Desktop Databases*
    Learn introductory concepts in constructing databases and networking files.
  - ***IT 263*** *Applied Networks and Security*
  - ***TDC 261*** *Basic Communication Systems*
    Learn about how networks work and how they impact your daily life.

- Scientific Inquiry: Lab

  - ***DC 274*** *Image,Optics and Cinematic Motion*
    Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and

photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.
    - ***GPH 259*** *Design Geometry (cross-listed as ART 295)*
      Learn the basics of Computer Aided Design.

- Self, Society, and the Modern World

    - ***CSC 223*** *The Impact of Computing Technology On Our Lives*
      This course will introduce students to an overview of social analysis techniques and the theories of social change.
    - ***DC 105*** *Digital Media Literacies*
      This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment.
    - ***DC 235*** *Adaptation: The Cinematic Recrafting of Meaning*
      This course explores contemporary cinematic adaptations of literature and how recent reworkings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.
    - ***GAM 208*** *or* ***IM 208*** *Virtual Worlds and Online Communities*
      Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.
    - ***IS 208*** *IT, Economy and Society*
      This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.
    - ***IT 201*** *Introduction to Information Systems*
      This course examines how various types of computer-based information systems form a critical part of modern organizations, how they work, and how they impact workers, organizations and the economy.

- Understanding the Past

    - ***GAM 206*** *History of Games*
      This class will examine particular games and game genres in their historical context using a case study format .
    - ***GPH 205*** *Historical Foundations of Visual Technology*
      This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.

- Philosophical Inquiry

    - ***CSC 208*** *The Computer and Social Responsibility*
      This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner
    - ***DC 227*** *Film Philosophy*
      This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.
    - ***DC 228 or GAM 228 or IT 228*** *Ethics in Computer Games and Cinema*
      Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed.

Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

CDM Liberal Studies Courses Offered by CDM - Grouped by Topic

- ***The Internet and How It Works***

  - ***CSC 200*** *Survey of Computing: Scientific Inquiry: Elective*
    Learn about Careers using computers and pick up some skills to help you manage your own PC or network!
  - ***CSC 211*** *Programming in Java I : Scientific Inquiry: Elective*
    CSC 212 *Programming in Java II: Scientific Inquiry: Elective*
    Two courses in programming JAVA, a cross-platform, web-enabled language.
  - ***CSC 255*** *Information Structures and Representations*
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.
  - ***CSC 261*** *Programming in C++ I*
  - ***CSC 262*** *Programming in C++ II*
    Two courses in programming C++.
  - ***ECT 250*** *Internet, Commerce, and Society: Scientific Inquiry: Elective*
    Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function.
  - ***HCI 201*** *Multimedia and the World Wide Web: Scientific Inquiry: Quantitative*
    Overview of the Web, its origins and capabilities. Create your own sample web page.
  - ***IT 130*** *The Internet and the Web*
    Learn to Design Your Own Website
  - ***IT 263*** *Applied Networks and Security*
    The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.
  - ***TDC 261*** *Basic Communication Systems*
    Introduction to voice, data,and multi-media network communications fundamentals. Wired, Wireless, and Optical applications in Local, Metropolitan, Wide Area Networks are explored. The overview explains how technical, regulatory, competitive, standardization and cultural factors impact modern network applications.

- ***The Computer and Society***

  - ***CSC 208*** *The Computer and Social Responsibility*
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner
  - ***CSC 223*** *The Impact of Computing Technology On Our Lives: Self, Society, and the Modern World*
    This course will introduce students to an overview of social analysis techniques and the theories of social change.
  - ***CSC 250*** *Computers and Human Intelligence*
    Students taking this course wll study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.
  - ***GAM 208*** *or* ***IM 208*** *Virtual Worlds and Online Communities*
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.
  - ***IS 208 IT*** *Economy and Society*
    This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.
  - ***IT 201*** *Introduction to Information Systems*
    This course examines how various types of computer-based information systems form a critical

part of modern organizations, how they work, and how they impact workers, organizations and the economy.
- ***DC 228 or GAM 228 or IT 228*** *Ethics in Computer Games and Cinema*
  Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed. Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

- ***Computer Graphics and Motion Technology***

  - ***ANI 101*** *Animation for Non-Majors*
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology
  - ***ANI 206*** *History of Animation*
    History of Animation: This course is an introduction to the history and development of the field of animation
  - ***GPH 205*** *Historical Foundations of Visual Technology*
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.
  - ***GPH 211*** *Perceptual Principles for Digital Environments I : Arts and Literature*
    An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.
    GPH 212 *Perceptual Principles for Digital Environments II : Arts and Literature*
    Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization
    GPH 213 *Perceptual Principles for Digital Environments III : Arts and Literature*
    These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them
  - ***GPH 259*** *Design Geometry (cross-listed as ART 295)*
    Learn the basics of Computer Aided Design.
  - ***GPH 360*** *Modeling Spaces*
    The digital design and modeling of environmental spaces with attention to human use parameters

- ***Data Analysis and Retrieval***

  - ***CSC 235*** *Problem Solving*
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning
  - ***CSC 239*** *Personal Computing: Scientific Inquiry: Quantitative*
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.
  - ***IT 223*** *Data Analysis* Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.
  - ***IT 240*** *Introduction to Desktop Databases: Personal Computing for Programmers: Scientific Inquiry: Elective*
    Learn introductory concepts in constructing databases and networking files.
  - ***HCI 201*** *Multimedia and the World Wide Web: Scientific Inquiry: Quantitative*
    Overview of the Web, its origins and capabilities. Create your own sample web page
  - ***ECT 250*** *Internet, Commerce, and Society: Scientific Inquiry: Elective*
    Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function
  - ***IT 130*** *The Internet and the Web (formerly ECT 270): Scientific Inquiry: Elective*
    Learn to design your own complex web site!

- ***Codes, Ciphers and Computer Intelligence***

- ***CSC 233*** *Codes and Ciphers : Scientific Inquiry: Elective*
  A history of code making and breaking and the math and (computer) science behind it
- ***CSC 250*** *Computers and Human Intelligence : Scientific Inquiry: Quantitative*
  Study how computers are designed to think like people

- ***Digital Cinema and Game Development***

  - ***ANI 101*** *Animation for Non-Majors*
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology.
  - ***ANI 206*** *History of Animation*
    History of Animation: This course is an introduction to the history and development of the field of animation.
  - ***DC 105*** *Digital Media Literacies*
    This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment
  - ***DC 113*** *Audio for Podcasts and Other Media*
    This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote, PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.
  - ***DC 120*** *Video Editing*
    Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student's understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.
  - ***DC 125*** *Digital Still Photography for Non-Majors*
    This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.
  - ***DC 201*** *Introduction to Screenwriting*
    This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.
  - ***DC 202*** *History of Motion Picture Editing*
    This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course adddresses this question.
  - ***DC 205*** *Foundations of Cinema*
    Acquisition and computer representation of sound and image. Sound and video standards. Lossy and Lossless compression. Basic computer graphics and rendering. Distribution of digital information.
  - ***DC 207*** *History of Cinema I, 1890-1945*
    This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting_ filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and as an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length,

narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.

- ***DC 208*** *History of American Cinema, 1946-1975*
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.
- ***DC 209*** *History of Cinema, 1975-Present*
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permuations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealth with the formal influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.
- ***DC 222*** *Story Structure in Cinema*
  This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.
- ***DC 227*** *Film Philosophy*
  This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.
- ***DC 233*** *Cinema & Art*
  This course will provide an overview of avant-garde film, video, animation and installation, and the relationship of these cinematic forms to Modern and Contemporary art.
- ***DC 235*** *Adaptation: The Cinematic Recrafting of Meaning*
  This courses explores contemporary cinematic adaptations of literature and how recent re-workings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.
- ***DC 250*** *Working with Actors 1*
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.
- ***DC 274*** *Image,Optics and Cinematic Motion*
  Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.
- ***GAM 206*** *History of Games*
  This class will examine particular games and game genres in their historical context using a case study format
- ***GAM 224*** *Introduction to Game Design*
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.

- ***Graphic Design***
  - ***GD 200*** *Graphic Design I*
    This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.
  - ***GD 210*** *Digital Illustration I*
    Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.
  - ***GD 220*** *History of Design I*
    The history of graphic design is an evolution in aesthetics, technology, style and visual

communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.
    - ***GD 380*** *Design for Client and Community*
      This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.

- ***Visualization***
    - ***IM 222*** *Information Visualization*
      This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.

Restrictions for CDM Students

A CDM student can take any CDM course approved for liberal studies credit and use it to satisfy a domain of the liberal studies program (LSP) provided the course is NOT required as part of the student's major.

A CDM student can not count a course as a liberal studies requirement and a major requirement. No double counting is allowed for CDM classes by CDM students.

Example 1

- A CGMT student cannot use GPH 211 to satisfy the arts and literature requirement of LSP, as GPH 211 is required by all CGMT tracks.
- An ECT major CAN take GPH 211 to satisfy the arts and literature requirement of the LSP. The course qualifies for a liberal studies program domain that is required by the student's major.

Example 2

- A CS student CAN take GPH 259 to satisfy the Scientific Inquiry (SI)-Quantitative-Lab requirement of LSP because the course is not required by the CS major AND it counts for SI-Lab which is a required domain for CS students.
- A CS student CANNOT take CSC 250 to satisfy SI because, although the course is not required by any or our programs, it qualifies for SI-quantitative (not Lab) which is NOT a required domain for CDM students.

Example 3

- A CS student takes GPH 211 for arts and literature LSP. Although GPH 211 is allowed as an elective even if it is not a 300 level course, the student CANNOT count the course both as satisfying an LSP domain AND as an elective for the CS program.

Combined Bachelor/Master Degrees

Academically gifted students may choose to enroll in the combined degree program. This dual degree program allows students to combine any CDM bachelor's degree with any CDM master's degree, except the joint MA/JD and joint MS/JD degree programs, following the structure outlined below.

Program Structure

Students in the combined degree program take a maximum of three graduate level courses that count toward both their bachelor's and master's degree requirements. Students may enroll in graduate level coursework in the junior and senior year only. Students in the combined degree program will receive the bachelor's degree after meeting all graduation requirements including the standard 192 undergraduate credit hours. The master's degree is awarded after the student completes 10 additional graduate courses (40 credit hours), instead of the standard 13 courses (52 credit hours).

Admission Criteria

- Minimum of 6 courses (24 credit hours) completed at DePaul
- GPA of 3.3 or higher in courses taken at DePaul
- Endorsement of faculty advisor

In order to apply for the BS/MS combined degree program, your faculty advisor must send an e-mail recommendation to Becky Krochmal . The recommendation should include your full name, student ID number, and the BS and MS degrees you wish to apply for.

Bachelor of Arts in Computing students who are enrolled via the School for New Learning are eligible for this program. Interested students who meet the admission criteria for a combined degree should contact Kenn Skorupa at SNL or Becky Krochmal at CDM for more information.

Maintaining Good Standing

- Each student's cumulative GPA and course grades will be reviewed after each Autumn, Winter, and Spring Quarter
- The student and Faculty Advisor will be notified when the student's cumulative GPA falls below 3.3 or when the student receives less than a C- in graduate level course.
- If a student's cumulative GPA falls below 3.3, the student must earn a term GPA of 3.3 or above in the following quarter to stay active. If the student does not achieve a 3.3 term GPA, then the student will be dismissed from the combined program and resume the traditional BA/BS. As long as the student's cumulative GPA is below 3.3, the student must continue to achieve at least a 3.3 term GPA in all following quarters or face dismissal. If, at any point, the student's cumulative GPA is once again 3.3 or higher, term requirements no longer apply.
- If a student does not maintain good standing, they will be dismissed from the Combined Degree and returned to normal undergraduate degree seeking status. Any graduate courses passed before dismissal will not be counted toward graduate credit and may not be retaken (if the student does pursue graduate study, other graduate courses must be substituted). If dismissed students wish to apply to a CDM graduate degree program, they may do so following normal CDM Admission procedures, but will still be required to take 13 graduate courses for a MS degree.

Bachelor's Degree to Master's Degree Transition

After completing the undergraduate degree, when the student is ready to begin the graduate degree, the student should email Becky Krochmal who will process the change of status.

If, upon completion of the bachelor's degree, the student did not meet all prerequisites for the master's degree, then the student will need to complete (course, test or waiver) the missing prerequisites for the chosen master's Degree. If, while still in the undergraduate degree phase, the student receives less than a C- in graduate level course, the course cannot count towards the MS/MA Degree.

Designing a Course of Study

It is extremely important that the student and faculty advisor work together on a course of study immediately upon admission to the Combined Degree Program.

This course of study may include which undergraduate classes to avoid taking in order to take the graduate version. Failure to put together a solid plan can lead to extra coursework and a lengthening of the Combined Degree program.

It is advisable for the student and advisor to enter the proposed plan of study in the student communication record on the CDM intranet so it is available to the student and CDM faculty and staff.

Registering for Master's Degree Courses

Starting in Fall 2010, students will be enrolled in the graduate class instead of the special "Combined Degree Course". The student's advisor must email Associate Dean Lucia Dettori requesting the enrollment. The following information should be included in the email: student's full name, DePaul ID, graduate course and section, and the undergraduate course to be substituted for. Student services will process the enrollment.

Minors

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

MINORS IN THE COLLEGE OF COMMERCE

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the College of Commerce Section for Minor Requirements.

MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. **CDM offers several minors that will appeal to all DePaul University students.**

Political science and *geography* majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

Communications majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give *Commerce* students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

Policies for Academic Minors
Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor

4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

CDM Minors for CDM Students

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

Note: If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, ie. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

CDM Minor Requirements

Animation Minor

ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
ANI 231	3D Animation
ANI 206	History of Animation
3 courses from the following list: (at least 1 must be ANI)	
DC 201	Introduction to Screenwriting
DC 210	Digital Cinema Production I
DC 220	Editing I
Any ANI course	

Computer Graphics Software Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
or **GD 105**	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 372	Principles of Computer Animation

Computer Science Minor

CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
and **CSC 309**	Object-Oriented Programming in C++
or	
CSC 261	Programming Languages I: C/C++
and **CSC 262**	Programming Languages II: C/C++
and **CSC 224**	Java for Programmers
CSC 393	Data Structures in C++
or **CSC 383**	Data Structures and Algorithms in Java
MAT 140	Discrete Mathematics I
CSC 373	Computer Systems I
CSC 374	Computer Systems II

Data Analysis and Data Mining Minor

IT 240	Introduction to Desktop Databases
IT 223	Data Analysis
CSC 324	Data Analysis and Statistical Software II
CSC 367	Introduction to Data Mining
CSC 334	Advanced Data Analysis
2 CDM Electives	

Database Minor

CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
IT 223	Data Analysis
IT 240	Introduction to Desktop Databases
CSC 352	Database Programming
CSC 367	Introduction to Data Mining
1 CDM Elective	

Data Visualization Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 323	Data Analysis
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 372	Principles of Computer Animation
GPH 380	Visualization

Digital Cinema Minor

DC 205	Foundations of Cinema
DC 225	Digital Still Photography
DC 201	Introduction to Screenwriting
DC 220	Editing I

3 courses from the following list:

ANI 101	Animation for Non-Majors
DC 210	Digital Cinema Production I
DC 270	Topics in Digital Cinema
DC 215	Digital Sound Design
DC 275	Cinematography
DC 310	Digital Cinema Production II
DC 320	Editing II
DC 389	The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130	The Internet and the Web
CSC 211	Prorgamming in Java I
CSC 212	Programming in Java II
IT 230	Building Internet Applications
ECT 330	Advanced Internet Application Development
IM 210	Introduction to Human-Computer Interaction

1 course from the following list:

ECT 355	Internet Systems: Collaboration, Commerce, and Media
ECT 360	Introduction to XML
ECT 365	Web Server Operations

Game Design Minor

DC 201	Introduction to Screenwriting
ANI 105	Intro to Visual Design
ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I
GAM 245	Game Development II

Game Programming Minor

GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I
GAM 245	Game Development II
GAM 374	Action Games Programming

2 courses from the following list:

ANI 230	3D Design & Modeling
GPH 321	Computer Graphics Development I
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II

Any other 300-Level **GAM or GPH** course

Graphic Design Minor

GD 105	Intro to Visual Design
GD 200	Graphic Design I
GD 300	Graphic Design II
GD 230	Typography

3 courses from the following list and/or any GD course (at least 1 must be GD):

ANI 101	Animation for Non-Majors
ANI 201	Animation I
ANI 230	3d Design and Modeling
ANI 260	Motion Graphics
ANI 360	Advanced Motion Graphics
DC 125	Digital Still Photography for Non-Majors
DC 220	Editing I
DC 225	Digital Still Photography
DC 321	Production Design
DC 376	Visual Design
IM 220	Interactive Media I
IM 222	Information Visualization
IM 320	Interactive Media II
IM 270	User-Centered Web Design
IT 130	The Internet and the Web

2 of the following courses may substitute for 1 course:

GD 350	Portfolio Workshop
GD 150	Illustrator Workshop
GD 151	Photoshop Workshop
GD 152	Digital Typography Workshop

Information and Computing in the Modern World Minor

ECT 350	Internet, Commerce and Society
HCI 201	Multimedia and the World Wide Web
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
CSC 223	The Impact of Computing Technology on Our Lives
or **IT 228**	Ethics in Computer Games and Cinema
or **CSC 208**	The Computer and Social Responsibility
or **IS 208**	Information Technology, Economy and Society
IS 356	Knowledge Management Systems
or **IS 374**	Management Support Systems

or **IT 398**	Topics in Global Information Technology

Interactive Media Minor

Required Courses

HCI 201	Multimedia and the World Wide Web
or **IT 130**	The Internet and the Web
IM 210	Introduction to Human-Computer Interaction
GD 105	Intro to Visual Design
or **GPH 211**	Perceptual Principles for Digital Environments
IM 220	Interactive Media I
IM 270	User-centered Web Design

2 courses from the following list:

IM 222	Information Visualization
IM 208	Virtual Worlds and Online Communities
IM 230	Scripting for Interactive Media
IM 320	Interactive Media II
IM 330	Advanced Scripting for Interactive Media
IT 231	Web Development I
IM 320	Interactive Media II

Information Systems Minor

IT 240	Introduction to Desktop Databases
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
IS 372	Fundamentals of Software Project Management
IS 373	Introduction to Large Systems Implementation

Information Technology Minor

IT 130	The Internet and the Web
IT 231	Web Development I
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
or **TDC 261**	Basic Communication Systems
IT 215	Analysis and Design Techniques

1 CDM Elective

Network Technology Minor

CSC 211	Programming in Java I
or **CSC 261**	Programming Languages I:C/C++
CSC 212	Programming in Java II
or **CSC 262**	Programming Langauge II:C/C++
IT 201	Introduction to Information Systems
IT 263	Applied Networks and Security
TDC 362	Principles of Data Communication
TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies

Screenwriting Minor

DC 201	Introduction to Screenwriting
DC 222	Classic Hollywood Film Structure

DC 301	Advanced Screenwriting I
DC 302	Advanced Screenwriting II
DC 303	Advanced Screenwriting III
DC 304	Topics in Screenwriting

Security Minor

CSC 211	Programming in Java I
and **CSC 212**	Programmingin Java II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
CSC 233	Codes and Cyphers
or **CSC 333**	Cryptology
CNS 378	Host and Information Security
CNS 320	Computer Forensic and Incident Response
CNS 228	Legal,Ethical and Social Issues in Information Security
CNS 340	Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130	The Internet and the Web
and **IT 231**	Web Development I
and **IT 232**	Web Development II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
or	
CSC 211	Programming inJava I
and **CSC 212**	Programming in Java II
CNS 228	Legal, Ethical and Society Issues in Information Security
CSC 233	Codes and Ciphers
CNS 320	Computer Forensic and Incident Response
CNS 340	Fundamentals of Information Assurance

Software Engineering Minor

CSC 261	Programming Languages I:C/C++
and **CSC 262**	Programming Languages II:C/C++
and **CSC 224**	Java for Programmers
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
CSC 212	Programming in Java II
and then	
CSC 383	Data Structures and Algorithms in Java
SE 325	Principles and Practices of Software Engineering

SE 330	Object-Oriented Modeling
SE 350	Onject -Oriented Software Development

Sound Design Minor

DC 215	Digital Sound Design
DC 312	Music for Film and Video
DC 313	Production Sound
DC 315	Advanced Digital Sound Design

3 courses from the following list

GAM 250	Digital Sound for Computer Games
DC 317	Advanced Sound Mixing for Cinema
DC 318	Advanced Dialogue Recording and Editing
DC 319	Advanced Sound Effects Recording and Editing
DC 313	Sound for Multimedia
DC 203	History of Motion Picture Sound

Television Production Minor

DC 210	Digital Cinema Production I
DC 220	Editing I
DC 271	Introduction to Television Production
DC 272	Writing for Television
TV 289	The Business of Television
TV 320	Editing for Television
TV 301	Television Program Development
DC 372	Topics in TV Production

Visual Computing Minor

MAT 140	Discrete Mathematics I
or **MAT 220**	Linear Algebra with Applications

or **1** quarter of Calculus (Prerequisite for CSC 381)

IT 223	Data Analysis (Prerequsite for CSC 367)
CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis
IT 300	Research Experience
CSC 367	Introduction to Data Mining (IT 223 requirement)

Visual Effects Minor

ANI 230	3D Design & Modeling
ANI 379	Advanced 3D Compositing
DC 220	Editing I
DC 325	Color Correction
VFX 200	Introduction to Visual Effects
VFX 278	Digital Compositing I
VFX 378	DIgital Compositing II

Bachelor of Arts Degree Programs

Computing (Joint with SNL)

The BA in Computing, offered jointly by CDM and DePaul's School for New Learning (SNL), prepares adult students for a computer-related career. The program is designed to be flexible for working adults, providing online and evening classes in DePaul's Loop, Naperville, Oak Forest, and O'Hare campuses. The personalized curriculum is competence-based, allowing students to earn credit from previous college courses, work, and life experience.

Degree Requirements

The Lifelong Learning Area consists of 12 competences satisfied by 9 required SNL courses, approved transfer courses or proficiency exams.

The Liberal Learning Area consists of 26 competences in 4 categories. Competences can be satisfied by SNL and CDM courses, relevant transfer courses of C- or better, and documented college-level learning from experience.

Focus Area consists of 12 competences satisfed through CDM courses, approved transfer courses and Advanced Project from SNL.

Course Requirements

For more information about the BA in Computing degree, please visit the School for New Learning website at http://snl.depaul.edu/Programs/UgradDegree/BAComputing.asp or contact SNL advising

Information Technology

The **B.A. in Information Technology** program will give students a broad education in current areas of information technology, with a focus on producing educated and sophisticated consumers of information technology. Students in this program will gain:

- An understanding of the impact of information and communication technologies on social, cultural, and ethical dimensions.
- Strong quantitative and reasoning skills with the ability to present technical data in verbal, written, and graphical forms.
- Verbal and written communication literacy.
- Students will also have an opportunity to specialize in a domain of interest or to acquire a generalized education in information technology.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Information Technology.

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*

Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	Required*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 130	The Internet and the Web
IT 201	Introduction to Information Systems
IT 240	Introduction to Desktop Databases
ICS 200	Introduction to Business
7 Liberal Studies	
1 Open Elective	

Second Year

IT 231	Web Development I
IT 223	Data Analysis
or CSC 239	Personal Computing
IM 210	Introduction to Human-Computer Interaction
IT 263	Applied Networks and Security
or TDC 261	Basic Communication Systems
CSC 223	The Impact of Computing Technology On Our Lives
CMNS 212	Small Group Communication
or CMNS 220	Public Speaking
5 Liberal Studies	
1 Open Elective	

Third Year

WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts
4 Technical grounding courses from the following list	
IT 215	Analysis and Design Techniques
IT 232	Web Development II
IT 330	User Interface Development for Interactive Systems
IT 320	Content Management Systems
CSC 211	Programming in Java I
CSC 212	Programming in Java II
CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
ECT 330	Advanced Internet Application Development
IM 230	Scripting for Interactive Media
IM 270	User-Centered Web Design
IM 330	Advanced Scripting for Interactive Media
GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II
GAM 244	Game Development I
GAM 245	Game Development II
SE 325	Introduction to Software Engineering
TDC 363	Introduction to Local Area Networks
5 Liberal Studies	
1 Major Elective	
1 Open Elective	

Fourth Year

CSC 378	Software Projects for Community Clients (Capstone)*
CSC 399	Independent Study*
1 Liberal Studies	
4 Major Electives	
5 Open Electives	

*CSC 378 is the first of a two course sequence (8 credit hours). It counts for both the capstone and the Junior Year Experiential Learning. The second course is the sequence is a special section of CSC 399. Both quarters must be completed to receive any credit

Major Electives

A minimum of 2 major electives must be chosen from any **300 level CDM courses** . A maximum of 3 major electives may be chosen from any 200-level (or higher) DePaul Course.
Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Bachelor of Science Degree Programs

Computer Games Development (Joint with CIM)

The **B.S. in Computer Game Development** prepares students to work in the multi-disciplinary field of computer gaming and interactive media. This program also requires strong mathematical and programming skills. CDM's Computer Game Development program combines coursework in game programming, game design, 3D Modeling, animation, physics, and artificial intelligence. Students work in cross-disciplinary teams to design and develop games. This program was created in consultation with our Game Dev Industry Advisory Board, and is the result of input from many of the top game programmers, producers and designers in the Chicago area.

Concentrations

Production and Design Concentration
Students in this concentration receive an education in all areas of game development, including game design, programming and animation, but also the basic business skills of project management, budgeting, contract negotiation, marketing and quality assurance.

Game Programming Concentration
Students in this concentration engage in the rigorous study of computer science basics, and then apply this knowledge to the demanding specialization of game programming. Areas of study include computer graphics development, computer science, linear algebra, game physics, and artificial intelligence programming.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Production & Design Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Production and Design Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GAM 395*
Learning Domains	
Arts and Literature (AL)	3 courses required:

	- DC 201 - 2 Additional Courses
Philosophical Inquiry (PI)	2 Courses Required: - DC 228/IT 228 - 1 Additional Course
Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GAM 226	Game Design for Majors
GD 105	Intro to Visual Design
GAM 244	Game Development I
GAM 245	Game Development II
ANI 101	Animation for Non-Majors
or ANI 201	Animation I
7 Liberal Studies	

Second Year

GAM 230	Intro to Game Production
MAT 150	Calculus I
CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
GAM 341	Introduction to Level Design
ANI 230	3D Design & Modeling
5 Liberal Studies	
1 Major Elective	

Third Year

ANI 231	3D Animation
GAM 250	Digital Sound for Computer Games
GAM 374	Fundamentals of Game Programming I
IM 220	Interactive Media I
WRD 204	Technical Writing
4 Liberal Studies	
3 Major Electives	

Fourth Year

GAM 333	The Business of Games
GAM 392	Game Modification Workshop
GAM 394	Game Development Project I
GAM 395	Game Development Project II (Capstone)
3 Liberal Studies	

1 Major Elective
4 Open Electives

Major Electives

Major electives can be chosen from the following list
200 level ANI, DC, GAM, GD, GPH, or IM courses
300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. Click here for details . Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Game Programming Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Game Programming Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GAM 395*
Learning Domains	
Arts and Literature (AL)	3 courses required: - DC 201 - ANI 101 -1 Additional Course
Philosophical Inquiry (PI)	2 courses required: - DC 228/IT 228 - 1 Additional Course

Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GAM 226	Game Design For Majors
GD 105	Intro to Visual Design
GAM 244	Game Development I
CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
MAT 150	Calculus I
MAT 151	Calculus II
5 Liberal Studies	

Second Year

GAM 245	Game Developoment II
CSC 393	Data Structures in C++
ANI 230	3D Design & Modeling
7 Liberal Studies	
2 Major Electives	

Third Year

CSC 373	Computer Systems I
CSC 374	Computer Systems II
GAM 350	Physics for Game Developers
GAM 374	Fundamentals of Game Programming I
GAM 377	Fundamentals of Game Programming II
GPH 321	Computer Graphics Development I
GPH 329	Computer Graphics Development II
4 Liberal Studies	
1 Major Elective	

Fourth Year

GAM 376	Artificial Intelligence for Computer Games
GPH 389	Real-Time Graphics Techniques
GAM 392	Game Modification Workshop
GAM 394	Game Development Project I
GAM 395	Game Development Project II (Capstone)
3 Liberal Studies	
1 Major Elective	
3 Open Electives	

Major Electives

Major electives can be chosen from the following list
200 level ANI, DC, GAM, GPH, or IM courses
300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**

Computer Graphics and Motion Technology (Joint with CIM)

The **B.S. in Computer Graphics and Motion Technology** prepares students who have a passion for art, math or technology for a multitude of career paths in computer graphics animation. Graduates from this major create visuals for video games, scientific and aerospace visualization, movies, television, and advertising. Students in this program will learn

- Design and analysis of mathematics/computer science programming principles for computer graphic design.
- History and theory of graphic design (color theory, perception).
- Usability and human-computer interaction.
- Hands-on, practical knowledge of digital photography, 3D animation, 3D modeling, texturing and rendering.
- Visual communication techniques.
- Real world experience working in a group as a contributing team member.
- Creating animation in a production pipeline environment.

Concentrations

Developer Concentration
This concentration prepares students for careers in graphics software development, with courses in programming lanaguages (C/C++) and mathematics (calculus and algebra), in addition to animation and computer graphics.

Technical Designer Concentration
This concentration prepares students interested in visual aspects, including lighting setup, shader development, scripting and character rigging.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Developer Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Developer Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GPH 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

CSC 261	Programming in C++ I
CSC 262	Programming in C++ II

CSC 393	Data Structures in C++
GPH 211	Perceptual Principles for Digital Environments I
or GD 105	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Environments II
ANI 201	Animation I
MAT 140	Discrete Mathematics I

One of the following two-course sequences

Calculus Sequence (option 1)

MAT 150	Calculus I
MAT 151	Calculus II

Calculus for Mathematics and Science Majors Sequence (option 2)

MAT 160	Calculus for Mathematics and Science Majors I
MAT 161	Calculus for Mathematics and Science Majors II

Calculus with Scientific Applications Sequence (option 3) Recommended

MAT 170	Calculus I with Scientific Applications
MAT 171	Calculus II with Scientific Applications

3 Liberal Studies

Second Year

GPH 325	Survey of Computer Graphics
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 321	Computer Graphics Development I
or MAT 220	Linear Algebra with Applications
CMNS 220	Public Speaking

7 Liberal Studies

Third Year

GPH 372	Principles of Computer Animation
CSC 321	Design and Analysis of Algorithms
IM 315	Theory and Perception of Color
WRD 204	Technical Writing

5 Liberal Studies

3 Major Electives

Fourth Year

GPH 375	Advanced Graphics Development
GPH 388	Production Pipeline Techniques
GPH 389	Real-Time Graphics Techniques
GPH 395	Computer Graphics Senior Project (Capstone)

4 Liberal Studies

1 Major Elective

3 Open Electives

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300	3D Character Animation
ANI 310	Motion Capture Workshop
ART 225	Beginning Photography
ART 329	Advanced Digital Photography
ART 360	Illustration

ART 373	History of Design
GPH 336	Smooth Surface Modeling for Graphics and Animation
GPH 340	Procedural Shading
GPH 341	Advanced Lighting Techniques
GPH 348	Rigging for Animation
GPH 376	Artificial Intelligence in Computer Games
GPH 380	Visualization
GPH 389	Real-Time Graphics Techniques
GPH 345	Digital Surface Modeling
GPH 259	Design Geometry
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II
GPH 358	Computer Graphics Automation
GPH 360	Modeling Spaces
GPH 374	Computer Games
GPH 375	Advanced Graphics Development
IM 210	Introduction to Human-Computer Interaction
IM 270	User-Centered Web Design
IM 322	Multimedia
IM 330	Advanced Scripting for Interactive Media
or IM 336	Interactive Media Scripting for Programmers *
IT 223	Data Analysis Self Placement Test
MAT 150	Calculus I
MAT 151	Calculus II
MAT 152	Calculus III

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Technical Designer Concentration :

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Technical Designer Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GPH 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required - HAA 130 - ART 106 - 1 Additional Course
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IM 230	Scripting for Interactive Media
and IM 330	Advanced Scripting for Interactive Media
or CSC 261	Programming in C++ I
and CSC 262	Programming in C++ II
GPH 211	Perceptual Principles for Digital Environments I
or GD 105	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Environments II
ANI 201	Animation I
MAT 140	Discrete Mathematics I
5 Liberal Studies	

Second Year

GPH 345	Digital Surface Modeling
GPH 255	Hand Prototyping for Graphic Visualization
GPH 325	Survey of Computer Graphics
GPH 358	Computer Graphics Automation
IM 210	Introduction to Human-Computer Interaction
HAA 115	Principles of Asian Art
CMNS 220	Public Speaking
5 Liberal Studies	

Third Year

IM 315	Theory and Perception of Color
or ART 205	Color Theory and Application
GPH 259	Design Geometry
GPH 338	Survey of 3-D Animation
GPH 339	Advanced Rendering Techniques
HAA 242	Art From 1945 - 1975
WRD 204	Technical Writing
6 Liberal Studies	
1 Major Elective	

Fourth Year

GPH 388	Production Pipeline Techniques
GPH 395	Computer Graphics Senior Project (Capstone)
3 Liberal Studies	
4 Major Electives	
3 Open Electives	

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300	3D Character Animation
ANI 310	Motion Capture Workshop
ART 225	Beginning Photography
ART 329	Advanced Digital Photography
ART 360	Illustration
GPH 259	Design Geometry
GPH 336	Smooth Surface Modeling for Graphics and Animation
GPH 340	Procedural Shading
GPH 341	Advanced Lighting Techniques
GPH 348	Rigging for Animation
GPH 376	Artificial Intelligence in Computer Games
GPH 380	Visualization
GPH 389	Real-Time Graphics Techniques
GPH 345	Digital Surface Modeling
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II
GPH 358	Computer Graphics Automation
GPH 360	Modeling Spaces
GPH 374	Computer Games
GPH 375	Advanced Graphics Development
HAA 263	History of Design

IM 210	Introduction to Human-Computer Interaction
IM 270	User-Centered Web Design
IM 322	Multimedia
IM 330	Advanced Scripting for Interactive Media
or IM 336	Interactive Media Scripting for Programmers *
IT 223	Data Analysis Self Placement Test
MAT 150	Calculus I
MAT 151	Calculus II
MAT 152	Calculus III

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Computer Science

The **B.S. in Computer Science** at DePaul CDM provides training in the foundations of computing, data storage and information processing. With this foundation, graduates of the program can easily adapt to and create new information technologies, new computing paradigms, and new ideas for applying computer systems. Students in the program will develop a broad set of skills and expertise:

- Programming and software development skills, the technical tools of the IT trade
- An understanding of modern computer systems, and how to use them to develop computer applications
- Skills in application areas such as security and cryptography, robotics and computer vision, data mining and databases, distributed and mobile systems, intelligent systems and gaming, computational biology, etc.

BS in Computer Science Degree Requirements

Concentration
The Software Engineering concentration provides students with skills, knowledge, and experiences in state-of-the-art software engineering methodologies, techniques, and applications.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Course Requirements

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the Bachelor of Science degree in Computer Science.

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	CSC 394*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required: - CSC 208 - 1 Additional Course
Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Note:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

CSC 241	Introduction to Computer Science I
CSC 242	Introduction to Computer Science II
MAT 140	Discrete Mathematics I
MAT 141	Discrete Mathematics II
CSC 224	Java for Programmers
IT 223	Data Analysis
6 Liberal Studies	

Second Year

CSC 383	Data Structures and Algorithms in Java
or CSC 393	Data Structures in C++
CSC 321	Design and Analysis of Algorithms
CSC 309	Object-Oriented Programming in C++
CSC 373	Computer Systems I
CSC 374	Computer Systems II
WRD 204	Technical Writing
5 Liberal Studies	
1 Open Elective	

Third Year

CSC 355	Database Systems
SE 350	Object-Oriented Software Development
CMNS 220	Public Speaking
4 Liberal Studies	
3 Major Electives	
2 Open Electives	

Fourth Year

CSC 376	Distributed Systems
CSC 348	Introduction to Compiler Design
CSC 394	Software Projects (Capstone)
4 Liberal Studies	
3 Major Electives	
2 Open Electives	

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Major electives can be chosen from the list below. At least **4** of the 6 Major Field elective courses must be taken from the list of **Advanced Major Field** courses.

Introductory Major Field Courses

CSC 233	Codes and Ciphers
CSC 235	Problem Solving
GAM 244	Game Development I
GAM 245	Game Development II
IM 210	Introduction to Human-Computer Interaction
IM 336	Interactive Media Scripting for Programmers
IT 130	The Internet and the Web
IT 231	Web Development I
IT 232	Web Development II
IT 263	Applied Networks and Security
MAT 150	Calculus I
MAT 151	Calculus II

Advanced Major Field Courses

Artificial Intelligence

CSC 357	Expert Systems
CSC 358	Symbolic Programming

CSC 380	Foundations of Artificial Intelligence
CSC 395	Introduction to Social Computing

Computational Sciences

CSC 331 Scientific Computing

Computer Game Development

GAM 350	Physics for Game Developers
GAM 353	Tool Programming for Game Development
GAM 374	Fundamentals of Game Programming I
GAM 376	Artificial Intelligence for Computer Games
GAM 378	Strategy Games Programming
GAM 380	Console Game Development Environments
GAM 382	Serious Games
GAM 386	Game Development for Mobile Devices
GAM 390	Multiplayer Game Development
GAM 391	Game Performance Optimization
GAM 394	Game Development Project I
GAM 395	Game Development Project II

Computer Graphics

GPH 325	Survey of Computer Graphics
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 372	Principles of Computer Animation
GPH 375	Advanced Graphics Development
GPH 389	Real-Time Graphics Techniques
GPH 395	Computer Graphics Senior Project

Computer Networks

TDC 362	Principles of Data Communications
TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies
TDC 371	Wireless Communications Networks
TDC 372	Digital Access Services
TDC 375	Network Protocols
TDC 377	Fundamentals of Network Security
TDC 379	Telecommunication and Network Security Practicum

Computer Systems

CSC 343	Introduction to Operating Systems
CSC 347	Concepts of Programming Languages
CSC 375	Introduction to Robotics
TDC 368	Network Programming

Computer Vision

CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis

Data Analysis and Data Mining

CSC 324	Data Analysis and Statistical Software II
CSC 334	Advanced Data Analysis
CSC 367	Introduction to Data Mining

Database Storage

CSC 352	Database Programming
CSC 353	Advanced Database Concepts

Human-Computer Interaction

CSC 360	User Interface Architecture and Development
IM 360	User-Centered Evaluation
IT 330	User Interface Development for Interactive Systems

Security

CNS 320	Computer Forensic and Incident Response
CNS 340	Fundamentals of Information Assurance
CSC 333	Cryptology

Software Engineering

SE 325	Introduction to Software Engineering
SE 330	Object Oriented Modeling
SE 333	Software Testing
SE 352	Object-Oriented Enterprise Application Development
SE 368	Software Measurement and Project Estimation

Theory of Computation

CSC 327	Problem Solving for Contests
CSC 344	Automata Theory and Formal Grammars
CSC 389	Theory of Computation

Web Development

CSC 308	Frameworks for Web Application Development
ECT 330	Advanced Internet Application Development
ECT 360	Introduction to XML
ECT 365	Web Server Operations
IT 320	Content Management Systems

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

B.S. in Computer Science: **Software Engineering Concentration Program**

This concentration provides students with skills, knowledge, and experiences in state-of-the-art software engineering methodologies, techniques, and applications.

Course Requirements

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Above are the specific requirements for the Bachelor of Science degree in Computer Science.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

CSC 241	Introduction to Computer Science I
CSC 242	Introduction to Computer Science II
MAT 140	Discrete Mathematics I
MAT 141	Discrete Mathematics II
CSC 224	Java for Programmers
6 Liberal Studies	
1 Open Elective	

Second Year

CSC 321	Design and Analysis of Algorithms
SE 325	Introduction to Software Engineering
SE 350	Object-Oriented Software Development
CSC 309	Object-Oriented Programming in C++
WRD 204	Technical Writing
CSC 383	Data Structures and Algorithms in Java
or CSC 393	Data Structures in C++
4 Liberal Studies	
1 CS Major Elective	
1 Open Elective	

Third Year

IT 223	Data Analysis
CSC 373	Computer Systems I
CSC 374	Computer Systems II
CSC 355	Database Systems
CSC 360	User Interface Architecture and Development
CMNS 220	Public Speaking
4 Liberal Studies	
2 Open Electives	

Fourth Year

CSC 376	Distributed Systems
CSC 348	Introduction to Compiler Design
CSC 394	Software Projects (Capstone)
5 Liberal Studies	
1 CS Major Elective	
2 Major Electives	
1 Open Elective	

Major Electives

Students in the SE concentration can choose major electives from the following list:

SE 330	Object Oriented Modeling
SE 333	Software Testing
SE 352	Object Oriented Enterprise Application Development
CSC 308	Frameworks for Web Application Development
IM 360	User-Centered Evaluation

Students must earn a grade of C- or higher in all major elective courses.

CS Major Electives
CS major electives can be chosen from the list of **Introductory Major Field** courses and **Advanced Major Field** courses.

Introductory Major Field Courses

CSC 233	Codes and Ciphers
CSC 235	Problem Solving
GAM 244	Game Development I
GAM 245	Game Development II
IM 210	Introduction to Human-Computer Interaction
IM 336	Interactive Media Scripting for Programmers
IT 130	The Internet and the Web
IT 231	Web Development I
IT 232	Web Development II
IT 263	Applied Networks and Security
MAT 150	Calculus I
MAT 151	Calculus II

Advanced Major Field Courses

Artificial Intelligence

CSC 357	Expert Systems
CSC 358	Symbolic Programming
CSC 380	Foundations of Artificial Intelligence
CSC 395	Introduction to Social Computing

Computational Sciences

CSC 331 Scientific Computing

Computer Game Development

GAM 350	Physics for Game Developers
GAM 353	Tool Programming for Game Development
GAM 374	Fundamentals of Game Programming I
GAM 376	Artificial Intelligence for Computer Games
GAM 378	Strategy Games Programming
GAM 380	Console Game Development Environments
GAM 382	Serious Games
GAM 386	Game Development for Mobile Devices
GAM 390	Multiplayer Game Development
GAM 391	Game Performance Optimization
GAM 394	Game Development Project I
GAM 395	Game Development Project II

Computer Graphics

GPH 325	Survey of Computer Graphics
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 372	Principles of Computer Animation
GPH 375	Advanced Graphics Development
GPH 389	Real-Time Graphics Techniques
GPH 395	Computer Graphics Senior Project

Computer Networks

TDC 362	Principles of Data Communications
TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies
TDC 371	Wireless Communications Networks
TDC 372	Digital Access Services
TDC 375	Network Protocols
TDC 377	Fundamentals of Network Security
TDC 379	Telecommunication and Network Security Practicum

Computer Systems

CSC 343	Introduction to Operating Systems
CSC 347	Concepts of Programming Languages
CSC 375	Introduction to Robotics
TDC 368	Network Programming

Computer Vision

CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis

Data Analysis and Data Mining

CSC 324	Data Analysis and Statistical Software II
CSC 334	Advanced Data Analysis
CSC 367	Introduction to Data Mining

Database Storage

CSC 352	Database Programming
CSC 353	Advanced Database Concepts

Human-Computer Interaction

CSC 360	User Interface Architecture and Development
IM 360	User-Centered Evaluation
IT 330	User Interface Development for Interactive Systems

Security

CNS 320	Computer Forensic and Incident Response
CNS 340	Fundamentals of Information Assurance
CSC 333	Cryptology

Software Engineering

SE 325	Introduction to Software Engineering
SE 330	Object Oriented Modeling
SE 333	Software Testing
SE 352	Object-Oriented Enterprise Application Development
SE 368	Software Measurement and Project Estimation

Theory of Computation

CSC 327	Problem Solving for Contests
CSC 344	Automata Theory and Formal Grammars
CSC 389	Theory of Computation

Web Development

CSC 308	Frameworks for Web Application Development
ECT 330	Advanced Internet Application Development
ECT 360	Introduction to XML
ECT 365	Web Server Operations

IT 320 Content Management Systems

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Information Assurance and Security Engineering

In the **B.S. in Information Assurance and Security Engineering** students will learn the fundamentals of information security, security infrastructure design and implementation, computer forensics, risk assessment as well as the impact of security requirements on a business operation. Students learn to design, implement and manage various security infrastructure components through hands-on activities in our state-of-the-art information Assurance and Security Laboratory. The lab environment includes multi-vendor firewalls, Virtual Private Networks, intrusion detection and prevention systems, routers, switches, and event correlation systems.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Information Assurance and Security Engineering:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	

Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	CNS 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

CSC 233	Codes and Ciphers
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
IT 231	Web Development I
MAT 140	Discrete Mathematics I
6 Liberal Studies	

Second Year

CSC 211	Programming in Java I
and CSC 212	Programming in Java II
or CSC 261	Programming in C++ I
and CSC 262	Programming in C++ II
CSC 373	Computer Systems I
CNS 340	Fundamentals of Information Assurance
TDC 365	Network Interconnection Technologies
TDC 375	Network Protocols
WRD 204	Technical Writing
5 Liberal Studies	

Third Year

TDC 377	Fundamentals of Network Security

CNS 320	Computer Forensic and Incident Response
CNS 378	Host and Information Security
CMNS 212	Small Group Communication
or CMNS 220	Public Speaking
7 Liberal Studies	
1 Major Elective	

Fourth Year

ACC 101	Introduction to Accounting I
or FIN 290	Finance for Non-Commerce Majors
CSC 374	Computer Systems II
TDC 379	Telecommunication and Network Security Practicum
CNS 228	Legal, Ethical and Social Issues in Information Security
CNS 394	Information Systems Security Engineering I
CNS 395	Information Systems Security Engineering II (Capstone)
1 Liberal Studies	
1 Major Elective	
4 Open Electives	

Major Electives

Major electives can be chosen from any **300 level CDM courses** .

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Information Systems

Students majoring in **Information Systems** develop the ability to use technology to address the operational, tactical, and strategic challenges facing business, nonprofit, and government organizations. Students in both concentrations develop background in usability and information assurance. Regardless of concentration, common long-term career positions for IS majors include Systems Analyst, Business Analyst, Information Technology Manager / Director, IT Project Manager, and IT Consultant. Job prospects for these positions are

excellent, as many IS experts are due to retire over the next five years and the ability to outsource these positions is low.

Concentrations

Analyst
Students following the Analyst Concentration seldom program, and often find entry level positions as user department analysts, acting as the liaison between the Information Technology department and other business units.

Developer
Students following the Developer Concentration do typically program, and are well prepared to begin careers as Web Developers.

Online Learning Options
Many courses in this degree are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Analyst Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Information Systems (Analyst Concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	IS 376*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If

students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements for the Analyst Concentration on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 201	Introduction to Information Systems
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
IM 210	Introduction to Human-Computer Interaction
7 Liberal Studies	

Second Year

IT 215	Analysis and Design Techniques
IT 223	Data Analysis
IT 320	Content Management Systems
IS 371	Introduction to IT System Management
CMNS 212	Small Group Communications
or CMNS 220	Public Speaking
WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts
ACC 101	Introduction to Accounting I
or MKT 301	Principles of Marketing
or 1 Psychology course	
or 1 Management course	
5 Liberal Studies	

Third Year

IT 231	Web Development I
or CSC 211	Programming in Java I
IS 372	Fundamentals of Software Project Management
IS 373	Introduction to Large Systems Implementation
IM 360	User-Centered Evaluation
4 Liberal Studies	
4 Open Electives	

Fourth Year

ECT 310	Internet Application Development
or IT 232	Web Development II
or CSC 212	Programming in Java II
IS 375	Object-Oriented Analysis and Design
CNS 340	Fundamentals of Information Assurance
IS 376	Information Systems project (Capstone)
3 Liberal Studies	
2 Major Elective	
3 Open Electives	

Major Electives

Major electives can be chosen from any 300-level CDM courses.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Developer Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Information Systems (Developer Concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	IS 376*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC

	208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements for the Developer Concentration on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 201	Introduction to Information Systems
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
IT 231	Web Development I
7 Liberal Studies	

Second Year

IT 215	Analysis and Design Techniques
IT 223	Data Analysis
CSC 211	Programming in Java I
and CSC 212	Programming in Java II
or CSC 261	Programming in C++ I
and CSC 262	Programming in C++ II
CSC 383	Data Structures and Algorithms in Java
IM 210	Introduction to Human-Computer Interaction
WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts
5 Liberal Studies	

Third Year

ECT 330	Advanced Internet Application Development
IS 372	Fundamentals of Software Project Management
ECT 355	Internet Systems: Collaboration,Commerce, and Media
ECT 360	Introduction to XML
CMNS 212	Small Group Communications
or CMNS 220	Public Speaking
4 Liberal Studies	
3 Open Electives	

Fourth Year

IS 375	Object-Oriented Analysis and Design
CNS 340	Fundamentals of Information Assurance
SE 352	Object-Oriented Enterprise Application Development
IS 376	Information Systems project (Capstone)
3 Liberal Studies	
2 Major Elective	
3 Open Electives	

Major Electives

Major electives can be chosen from any 300-level CDM courses.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Information Technology

The **B.S. in Information Technology** is a technical degree that instructs students in core competencies in the areas of problem solving and programming, networks and communications systems, databases, internet and web technologies, security, and project management. Students also receive a solid academic foundation in business concepts and technical communication.

Online Learning Options

Many courses in this degree are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Liberal Studies

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Information Technology:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning &	Not Required

Technological Literacy	
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	Required*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required: - ECO 105 - 2 Additional Courses
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 130	The Internet and the Web
IT 231	Web Development I
IT 232	Web Development II
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
IT 330	User Interface Development for Interactive Systems

6 Liberal Studies

Second Year

CSC 211	Programming in Java I
CSC 212	Programming in Java II
CSC 383	Data Structures and Algorithms in Java
CSC 352	Database Programming
IT 215	Analysis and Design Techniques
IT 223	Data Analysis
WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts

5 Liberal Studies

Third Year

CNS 340	Fundamentals of Information Assurance
IS 372	Fundamentals of Software Project Management
MKT 301	Principles of Marketing
CSC 373	Computer Systems I
or ECT 365	Web Server Operations
or TDC 311	Computers in Telecommunications Systems
CMNS 212	Small Group Communication
or CMNS 220	Public Speaking
5 Liberal Studies	
1 Major Elective	

Fourth Year

ACC 101	Introduction to Accounting I
or FIN 290	Finance for Non-Commerce Majors
CSC 394	Software Projects (Capstone)
or any other CDM capstone course	
3 Liberal Studies	
3 Major Electives	
5 Open Electives	

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Major Electives can be chosen from any **300 level CDM courses** . At most **one** of the electives can be chosen from the list below:

ANI 201	Animation I
ANI 230	3D Design & Modeling
ANI 231	3D Animation
ANI 240	Animation Production I
GAM 244	Game Development I
GAM 245	Game Development II
GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II
GPH 213	Perceptual Principles for Digital Environments III
GPH 250	Digital Modeling I
GPH 259	Design Geometry
IM 210	Introduction to Human-Computer Interaction
IM 270	User-Centered Web Design
IT 320	Content Management Systems

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Interactive Media (Joint with CIM)

The **B.S. in Interactive Media** degree prepares students for the expanding field of interaction design and its application to multimedia and web development. The base program integrates technical and artistic disciplines. Technical concepts and skills involve web markup languages, interactive scripting and human-centered design. The student also explores artistic areas of study such as communication design, animation, game design and cinema.A major in interactive media provides students with broad skills and expertise including:

- Develop well-designed web pages, sites, and interactive applications
- Design, code and create content for casual games
- Conduct usability tests for interactive web sites
- Employ visual design principles to express ideas and concepts
- Create prototypes for interactive displays

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Interative Media:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	Required*
Learning Domains	

Arts and Literature (AL)	3 Courses Required: - DC 205 - 2 Additional Courses
Philosophical Inquiry (PI)	2 Courses Required: - CSC 208 **or** IT 228 - 1 Additional Course
Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required: - PSY 105 - 2 Additional Courses
Understanding the Past (UP)	2 Courses Required
Note:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

ANI 101	Animation for Non-Majors
or ANI 201	Animation I
GD 105	Intro to Visual Design
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IM 270	User-Centered Web Design
ART 260	Art and Design I: History,Concept,Structure
6 Liberal Studies	

Second Year

IT 231	Web Development I
IM 210	Introduction to Human-Computer Interaction
IM 220	Interactive Media I
IM 230	Scripting for Interactive Media
IT 223	Data Analysis
ANI 230	3D Design & Modeling
ART 264	Typography I
5 Liberal Studies	

Third Year

IM 320	Interactive Media II
IM 330	Advanced Scripting for Interactive Media
IM 360	User-Centered Evaluation

GAM 244	Game Development I
WRD 204	Technical Writing
4 Liberal Studies	
3 Major Electives	

Fourth Year

IM 394	Human-Computer Interaction Capstone
or CSC 394	Software Projects (Capstone)
4 Liberal Studies	
2 Major Elective	
5 Open Electives	

Major Electives

Major electives can be chosen from the following list
Any 200- or 300-level CDM,ART or CMN course.

Any of the following:

PSY 241	Research Methods I
PSY 242	Research Methods II
PSY 360	Theories of Learning and Cognition
PSY 375	Sensation and Perception
PSY 380	Industrial and Organizational Psychology
PSY 383	Psychology of Design

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Mathematics / Computer Science (Joint with LA&S)

The **B.S. in Math and Computer Science** is a joint degree between the College of Computing and Digital Media and the Department of Mathematics. It provides challenging opportunities to exceptional students with an interest in the highly theoretical nexus of math and computer science. Mathematics is a key element to the

theory and practice of computer science and technology:

- Number theory forms the basis for encryption algorithms for messages sent over the Internet.
- Facts from projective geometry and multivariable calculus underlie the computer algorithms that control computer animation.
- Properties of abstract groups are instrumental in correcting transmission errors that occur when information is sent from one computer to another.
- Graph theory and combinatorics are used to create algorithms for Internet search engines and analyze Internet routing protocols.

This program is intended to appeal to academically talented students. It is designed to prepare them for graduate study in various areas of computer science such as theoretical computer science, graphics, data analysis, artificial intelligence, and computational methods and in areas in applied mathematics such as numerical analysis or discrete mathematics. The program is also designed to prepare students to compete for the more theoretical complex jobs found in computer software development.

Students in the program will explore a broad range of fields including:

- Theory of computation
- Computational mathematics
- Artificial intelligence
- Data analysis
- Graphics
- Computer vision

It is highly recommended that students concentrate on one or two areas for their advanced classes to achieve depth, but they are not required to do so. Faculty advisors are available to assist students in their selection.

Online Learning Options

Some courses in this degree are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Liberal Studies

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Math and Computer Science.

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	CSC 394* **or** MAT 398* **or** GPH 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*

Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

CSC 241	Introduction to Computer Science I
CSC 242	Introduction to Computer Science II
CSC 224	Java for Programmers
or CSC 309	Object-Oriented Programming in C++
6 Liberal Studies	

In addition, students must complete **one** of the following three-course sequences:

Calculus Sequence (option 1)

MAT 150	Calculus I
MAT 151	Calculus II
MAT 152	Calculus III

Calculus for Mathematics and Science Majors Sequence (option 2)

MAT 160	Calculus for Mathematics and Science Majors I
MAT 161	Calculus for Mathematics and Science Majors II
MAT 162	Calculus for Mathematics and Science Majors III

Calculus with Scientific Applications Sequence (option 3)

MAT 170	Calculus I with Scientific Applications
MAT 171	Calculus II with Scientific Applications
MAT 172	Calculus III with Differential Equations

Second Year

CSC 383	Data Structures and Algorithms in Java
or CSC 393	Data Structures in C++
CSC 373	Computer Systems I
CSC 374	Computer Systems II
MAT 140	Discrete Mathematics I
MAT 141	Discrete Mathematics II
MAT 260	Multivariable Calculus I
6 Liberal Studies	

Third Year

MAT 262	Linear Algebra

4 Liberal Studies
2 CDM Major Electives
2 MAT Major Electives
3 Open Electives

Fourth Year

CSC 321	Design and Analysis of Algorithms
CSC 394	Software Projects (Capstone)
or GPH 395	Computer Graphics Senior Project (Capstone)
or MAT 398	Senior Capstone Seminar (Capstone)

3 Liberal Studies
1 CDM Major Elective
1 MAT Major Elective
1 CDM or MAT Major Elective
4 Open Electives

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Of the 7 Major Field electives courses, **3** must be taken from the **CDM Major Electives List** , **3** must be taken from the **MAT Major Electives List** , and **1** could be taken from either lists.

Major Electives can be chosen from the grouped list below. It is recommended that students concentrate on one or two areas for their advanced classes to achieve depth, but they are not required to do so. Students are strongly encouraged to discuss course selection with an advisor. Students may wish to arrange with a professor to take an independent study or a research experience (MAT 399 or CSC 399 or IT 300) in order to explore a subject more deeply than is possible in a scheduled course.

Theory of Computation

The courses in the theory area explore the mathematical and logical foundations of computer science.

MAT 302	Combinatorics
MAT 303	Theory of Numbers
MAT 351	Probability and Statistics I
MAT 310	Abstract Algebra I
MAT 311	Abstract Algebra II
MAT 312	Abstract Algebra III
MAT 335	Real Analysis I
MAT 372	Logic and Set Theory
CSC 235	Problem Solving
CSC 327	Problem Solving for Contests
CSC 333	Cryptology
CSC 344	Automata Theory and Formal Grammars
CSC 347	Concepts of Programming Languages
CSC 348	Introduction to Compiler Design
CSC 387	Operations Research I: Linear Programming
or MAT 387	Operations Research I: Linear Programming
CSC 369	Introduction to Computer Graphics
CSC 389	Theory of Computation

Computational Methods Area

The computational methods area investigates quantitative and computational methods in computer science.

CSC 331	Scientific Computing
CSC 385	Numerical Analysis
or MAT 385	Numerical Analysis I

CSC 386	Advanced Numerical Analysis
or MAT 386	Numerical Analysis II
MAT 330	Methods of Computation and Theoretical Physics I
MAT 331	Methods of Computation and Theoretical Physics II
MAT 384	Mathematical Modeling

Artificial Intelligence

For students with an interest in the computational relations between syntax and semantics.

CSC 380	Foundations of Artificial Intelligence
CSC 357	Expert Systems
CSC 358	Symbolic Programming

Data Analysis Area

For students who are interested in statistical and computational analysis of data. Many of the courses in this area require the student to take MAT 351-353.

CSC 328	Data Analysis for Experimenters
CSC 334	Advanced Data Analysis
or MAT 354	Multivariate Statistics
CSC 332	Simulation and Modeling
or MAT 359	Simulation and Models and the Monte Carlo Method
CSC 367	Introduction to Data Mining
MAT 261	Multivariate Calculus II
MAT 351	Probability and Statistics I
MAT 352	Probability and Statistics II
MAT 353	Probability and Statistics III
MAT 355	Stochastic Processes
MAT 357	Nonparametric Statistics
MAT 370	Advanced Linear Algebra
MAT 356	Applied Regression Analysis
MAT 358	Applied Time Series and Forecasting

Graphics Area

The graphics courses are intended for students who want to study the technical and mathematical foundations of computer graphics and animation.

MAT 337	Complex Analysis
MAT 261	Multivariable Calculus II
CSC 385	Numerical Analysis
or MAT 385	Numerical Analysis I
GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II
GPH 325	Survey of Computer Graphics
GPH 329	Computer Graphics Development II
GPH 336	Smooth Surface Modeling for Graphics and Animation
GPH 372	Principles of Computer Animation

Computer Vision Area

Computer vision studies the mathematical and algorithmic underpinnings of image analysis and image processing.

MAT 261	Multivariable Calculus II
MAT 335	Real Analysis I
MAT 381	Fourier Analysis and Special Functions
MAT 370	Advanced Linear Algebra
MAT 384	Mathematical Modeling

CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis
CSC 384	Introduction to Computer Vision

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook .

Network Technologies

In the **B.S. in Network Technology** students will learn the theory and practice of designing, deploying and managing both wired and wireless networks technologies, including broadband Internet access technologies, interconnection technologies, network convergence, and network security. The program provides a combined emphasis on both foundational theory and hands-on experience that allow students to design, configure, and manage equipment and services in a variety of network environments. Students gain experience with network devices and servers in lab facilities focused on enterprise network, security, and multimedia network services. The Network Technology program provides students with expertise in:

- The protocols and services that enable Internet and LAN services
- The design and management of local and wide area network
- Voice and data network convergence through VoIP technologies
- Wireless networks (WiFi, WiMAX, Cellular, and 3G)
- Network security

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Concentrations

Standard
This concentration is geared toward students who are considering careers in network design, system management, service deployment, and product/vendor evaluation. The course work focuses on network technologies, protocol studies, device configuration, and network design.

Network Security
This concentration is geared toward students who are considering careers in network security, security administration, and security infrastructure design. The course work focuses on network security technologies, best practices in security design, and security management.

Application Development
This concentration is geared toward students who are considering careers in application development for network services with course work focused on software development and network programming, in addition to network technologies and protocols.

Standard Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Network Technology (Standard Concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	TDC 376*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 201	Introduction to Information Systems
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
IT 231	Web Development I
MAT 140	Discrete Mathematics I
6 Liberal Studies	

Second Year

IT 223	Data Analysis
TDC 311	Computers in Telecommunications Systems
TDC 362	Principles of Data Communications
WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts
CSC 211	Programming in Java I
and CSC 212	Programming in Java II
or CSC 261	Programming in C++ I
and CSC 262	Programming in C++ II
6 Liberal Studies	

Third Year

TDC 363	Introduction to Local Area Networks
TDC 364	Voice Communications Technologies
TDC 365	Network Interconnection Technologies
CMNS 212	Small Group Communication
or CMNS 220	Public Speaking
4 Liberal Studies	
1 Major Elective	
3 Open Electives	

Fourth Year

TDC 376	Network Project (Capstone)
3 Liberal Studies	
2 Major Electives	
6 Open Electives	

Major Electives

Major electives can be chosen from any **300 level TDC courses** .

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Network Security Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Network Technology (Network Security Concentration):.

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	TDC 376*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 201 Introduction to Information Systems

IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
IT 231	Web Development I
MAT 140	Discrete Mathematics I
6 Liberal Studies	

Second Year

CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
TDC 311	Computers in Telecommunications Systems
TDC 362	Principles of Data Communications
CNS 340	Fundmentals of Information Assurance
WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts
6 Liberal Studies	

Third Year

TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies
TDC 377	Fundamentals of Network Security
CMNS 212	Small Group Communication
or CMNS 220	Public Speaking
7 Liberal Studies	
1 Major Elective	

Fourth Year

CNS 378	Host and Information Security
TDC 379	Telecommunication and Network Security Practicum
TDC 375	Network Protocols
TDC 368	Network Programming
TDC 376	Network Project (Capstone)
1 Major Elective	
6 Open Electives	

Major Electives

Major electives can be chosen from any **300 level TDC courses** .

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Application Development Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Network Technology (Application Development Concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	TDC 376*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IT 201	Introduction to Information Systems
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security

IT 231	Web Development I
MAT 140	Discrete Mathematics I
6 Liberal Studies	

Second Year

CSC 211	Programming in Java I
and CSC 212	Programming in Java II
or CSC 261	Programming in C++ I
and CSC 262	Programming in C++ II
TDC 311	Computers in Telecommunications Systems
TDC 362	Principles of Data Communications
IT 223	Data Analysis
WRD 204	Technical Writing
or WRD 301	Writing in Workplace Contexts
6 Liberal Studies	

Third Year

TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies
CSC 309	Object-Oriented Programming in C++
or CSC 224	Java for Programmers
CSC 383	Data Structures and Algorithmsin Java
or CSC 393	Data Structures in C++
TDC 368	Network Programming
CMNS 212	Small Group Communication
or CMNS 220	Public Speaking
4 Liberal Studies	
1 Major Elective	
1 Open Elective	

Fourth Year

TDC 375	Network Protocols
TDC 376	Network Project (Capstone)
3 Liberal Studies	
1 Major Elective	
6 Open Electives	

Major Electives

Major electives can be chosen from any **300 level TDC courses** .

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
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For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**

School of Cinema and Interactive Media (CIM)

About the School of Cinema and Interactive Media

The School of Cinema and Interactive Media (CIM) houses CDM's creative degrees. With an emphasis on all aspects of production, students can earn degrees that prepare them for work in digital cinema, animation, computer game development, and interactive media.

Faculty

SHIRO AKIYOSHI
Associate Professor

MEGHANN ARTIES, M.F.A.
Assistant Professor
University of California Los Angeles

LISA BARCY, M.A.
Instructor
Columbia College

DEVIN BELL, M.F.A.
Assistant Professor
California Institute of the Arts

KRISTYN BENEDYK, M.F.A.
Assistant Professor
University of Southern California

ROBIN BURKE, Ph.D.
Associate Professor
Northwestern University

SHAYNA CONNELLY, M.F.A
Instructor
Columbia College

JOHANNA DERY, M.F.A
Assistant Professor
Goddard College

RONALD ELTANAL, M.F.A.
Associate Professor
University of Southern California

SCOTT ERLINDER, M.F.A.
Assistant Professor
Columbia College

RONALD FERNANDEZ, M.F.A.
Assistant Professor
University of Southern California

DANA HODGDON, M.A.
Associate Professor
Northwestern University

MATT IRVINE, M.F.A.
Associate Professor
Columbia College

JOSHUA JONES, M.F.A .
Assistant Professor
University of Southern California

STEVEN JONES, B.S.
Producer in Residence
Illinois Institute of Technology

DANIEL KLEIN, B.F.A.
Instructor
New York University

JOSEPH LINHOFF, J.D.
Assistant Professor
University of Colorado at Boulder School of Law

THOMAS MUSCARELLO, Ph.D.
Associate Professor
University of Illinois at Chicago

GARY NOVAK, M.F.A.
Assistant Professor
American Film Institute

THOMAS O'HAVER
Director in Residence

SAVVAS PARITSIS
Assistant Professor

ERNESTO PEREZ. B.F.A.
Instructor
University of Illinois Urbana-Champaign

NICHOLE PINKARD, Ph.D.
Associate Professor
Northwestern University

MATT QUINN, M.F.A.
Instructor
Loyola Marymount University in Los Angeles

SCOTT ROBERTS, M.F.A.
Associate Professor
University of Wisconsin - Madison

KATIE SALEN, M.F.A.
Professor
Rhode Island School of Design

ROBERT STEEL, M.A.
Instructor
Northwestern University

ALEXANDER STEWART, M.F.A.
Assistant Professor

School of the Art Institute of Chicago

DOLORES WILBER, M.F.A.
Professor
School of the Art Institute of Chicago

JOSE ZAGAL, Ph.D.
Assistant Professor
Georgia Institute of Technology

JONAH ZEIGER, M.F.A.
Assistant Professor
New York University

JOANNE ZIELINSKI, M.F.A.
Associate Professor
Rutgers University

Liberal Studies Program and Modern Language Option

The Liberal Studies Program is the common curriculum taken by all students in the seven undergraduate colleges of DePaul University. Overall, the Program is designed to develop students writing abilities, computational and technological proficiencies, and critical and creative thinking skills.

Each major in the University has unique Liberal Studies requirements.

Please consult the Liberal Studies catalog for your relevant requirements as a CDM student as well as for information about the Modern Language Option.

CDM Liberal Studies Courses

CDM offers dozens of courses in many domains of the Liberal Studies Program. You can experiment with Screenwriting, Digital Photography, Game Design, Computer Graphics and Programming and fulfill a requirement at the same time. Many of these courses also serve as gateway courses into more advanced CDM courses. Courses can be grouped in two lists:

- Liberal Studies Course Offered by CDM
- CDM Liberal Studies Courses Offer by CDM - Grouped by Topic

Click to view Restrictions for CDM Students

Liberal Studies Courses Offered by CDM

This list represents Liberal Studies Program (LSP) courses taught by CDM only. For a complete list of LSP coures, visit the Liberal Studies homepage.

- Arts and Literature

    - ***ANI 101*** *Animation for Non-Majors*
      Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer

technology.

- ***ANI 206*** *History of Animation*
  History of Animation: This course is an introduction to the history and development of the field of animation.
- ***DC 113*** *Audio for Podcasts and Other Media*
  This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote, PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.
- ***DC 202*** *History of Motion Picture Editing*
  This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course adddresses this question.
- ***DC 125*** *Digital Still Photography for Non-Majors*
  This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.
- ***DC 120*** *Video Editing*
  Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student's understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.
- ***DC 201*** *Introduction to Screenwriting*
  This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.
- ***DC 205*** *Foundations of Cinema*
  Acquisition and computer representation of sound and image. Sound and video standards. Lossy and Lossless compression. Basic computer graphics and rendering. Distribution of digital information.
- ***DC 207*** *History of Cinema I, 1890-1945*
  This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting_ filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and as an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length, narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.
- ***DC 208*** *History of American Cinema, 1946-1975*
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.
- ***DC 209*** *History of Cinema, 1975-Present*
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permuations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealth with the formal

influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.

- ***DC 222*** Story Structure in Cinema
  This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.
- ***DC 233*** *Cinema & Art*
  This course will provide an overview of avant-garde film, video, animation and installation, and the relationship of these cinematic forms to Modern and Contemporary art.
- ***DC 250*** *Working with Actors 1*
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.
- ***GAM 224*** *Introduction to Game Design*
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.
- ***GD 200*** *Graphic Design I*
  This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.
- ***GD 210*** *Digital Illustration I*
  Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.
- ***GD 220*** *History of Design I*
  The history of graphic design is an evolution in aesthetics, technology, style and visual communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.
- ***GPH 211*** *Perceptual Principles for Digital Environments I*
  An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.
- ***GPH 212*** *Perceptual Principles for Digital Environments II*
  Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization.
- ***GPH 213*** *Perceptual Principles for Digital Environments III*
  These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them!

- Junior Experiential Learning Credit

  - ***CSC 298*** *Internship*
    Computer Science Internship in cooperation with local employers this course offers students the opportunity to integrate their academic experience with on-the-job training in computer related work areas.
  - ***CSC 378*** *Software Projects for Community Clients*
  - ***CSC 379*** *Technology Partnerships in Urban Schools*
    Students in this course will have the opportunity to assess urban community needs in the technology arena and develop skills in assisting and developing methods for bridging the digital divide that exists.
  - ***DC 298*** *Internship in Media Production/Post-Production*
    This course offers students an excellent opportunity to gain professional experience, industry contacts, and referrals while still in school. Opportunities in post-production, motion picture production, advertising, television, animation, motion graphics and interactive media. Admission to the program requires consent of internship course instructor. Current work experience plus classroom time is required. Supervisor evaluation will contribute to the final grade.
  - ***DC 380*** *Project Bluelight*
    Production of a feature-length digital motion picture written by students or faculty within the

Digital Cinema program.
- ***GD 380*** *Design for Client and Community*
  This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.
- ***GPH 360*** *Modeling Spaces*
  The digital design and modeling of environmental spaces with attention to human use parameters.
- ***IT 300*** *Research Experience*
  This course involves the exploration of a research topic under the supervision of a research advisor.
- ***IT 398*** *Topics in Global Information Technology*
  This course focuses on current topics in the information and communications technologies that together support the "networked world." Sample topics are global software development and deployment, global data and information management, and cross-cultural project management for information systems. The course may be offered for variable credit hours (2, 4, 8, 16, and 32).

- Scientific Inquiry

  - ***CSC 200*** *Survey of Computing*
    Learn about careers using computers and pick up some skills to help you manage your own PC or network!
  - ***CSC 211*** *Programming in Java I*
    CSC 212 *Programming in Java II*
    Two courses in programming JAVA, a cross-platform, web-enabled language.
  - ***CSC 233*** *Codes and Ciphers*
    A history of code making and breaking and the math and (computer) science behind it
  - ***CSC 235*** *Problem Solving*
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning.
  - ***CSC 239*** *Personal Computing*
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.
  - ***CSC 250*** *Computers and Human Intelligence*
    Students taking this course wll study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.
  - ***CSC 255*** *Information Structures and Representations*
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.
  - ***CSC 261*** *Programming in C++ I*
  - ***CSC 262*** *Programming in C++ II*
    Two courses in programming C++
  - ***ECT 250*** *Internet, Commerce, and Society*
    Ever shop online? Learn the basics behind how these kinds of web sites function
  - ***HCI 201*** *Multimedia and the World Wide Web*
    Overview of the Web, its origins and capabilities. Create your own sample web page.
  - ***IM 222*** *Information Visualization*
    This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.
  - ***IT 130*** *The Internet and the Web*
    Learn to design your own web site!
  - ***IT 223*** *The Internet and the Web*
    Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.
  - ***IT 236*** *User Interface Development* The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.
  - ***IT 240*** *Introduction to Desktop Databases*
    Learn introductory concepts in constructing databases and networking files.

- ***IT 263*** *Applied Networks and Security*
- ***TDC 261*** *Basic Communication Systems*
  Learn about how networks work and how they impact your daily life.

- Scientific Inquiry: Lab

  - ***DC 274*** *Image,Optics and Cinematic Motion*
    Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.
  - ***GPH 259*** *Design Geometry (cross-listed as ART 295)*
    Learn the basics of Computer Aided Design.

- Self, Society, and the Modern World

  - ***CSC 223*** *The Impact of Computing Technology On Our Lives*
    This course will introduce students to an overview of social analysis techniques and the theories of social change.
  - ***DC 105*** *Digital Media Literacies*
    This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment.
  - ***DC 235*** *Adaptation: The Cinematic Recrafting of Meaning*
    This course explores contemporary cinematic adaptations of literature and how recent reworkings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.
  - ***GAM 208*** *or* ***IM 208*** *Virtual Worlds and Online Communities*
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.
  - ***IS 208*** *IT, Economy and Society*
    This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.
  - ***IT 201*** *Introduction to Information Systems*
    This course examines how various types of computer-based information systems form a critical part of modern organizations, how they work, and how they impact workers, organizations and the economy.

- Understanding the Past

  - ***GAM 206*** *History of Games*
    This class will examine particular games and game genres in their historical context using a case study format .
  - ***GPH 205*** *Historical Foundations of Visual Technology*
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.

- Philosophical Inquiry

  - ***CSC 208*** *The Computer and Social Responsibility*
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner
  - ***DC 227*** *Film Philosophy*
    This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a

particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.

- ***DC 228 or GAM 228 or IT 228*** *Ethics in Computer Games and Cinema*
  Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed. Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

CDM Liberal Studies Courses Offered by CDM - Grouped by Topic

- ***The Internet and How It Works***

  - ***CSC 200*** *Survey of Computing: Scientific Inquiry: Elective*
    Learn about Careers using computers and pick up some skills to help you manage your own PC or network!
  - ***CSC 211*** *Programming in Java I : Scientific Inquiry: Elective*
    CSC 212 *Programming in Java II: Scientific Inquiry: Elective*
    Two courses in programming JAVA, a cross-platform, web-enabled language.
  - ***CSC 255*** *Information Structures and Representations*
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.
  - ***CSC 261*** *Programming in C++ I*
  - ***CSC 262*** *Programming in C++ II*
    Two courses in programming C++.
  - ***ECT 250*** *Internet, Commerce, and Society: Scientific Inquiry: Elective*
    Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function.
  - ***HCI 201*** *Multimedia and the World Wide Web: Scientific Inquiry: Quantitative*
    Overview of the Web, its origins and capabilities. Create your own sample web page.
  - ***IT 130*** *The Internet and the Web*
    Learn to Design Your Own Website
  - ***IT 263*** *Applied Networks and Security*
    The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.
  - ***TDC 261*** *Basic Communication Systems*
    Introduction to voice, data,and multi-media network communications fundamentals. Wired, Wireless, and Optical applications in Local, Metropolitan, Wide Area Networks are explored. The overview explains how technical, regulatory, competitive, standardization and cultural factors impact modern network applications.

- ***The Computer and Society***

  - ***CSC 208*** *The Computer and Social Responsibility*
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner
  - ***CSC 223*** *The Impact of Computing Technology On Our Lives: Self, Society, and the Modern World*
    This course will introduce students to an overview of social analysis techniques and the theories of social change.
  - ***CSC 250*** *Computers and Human Intelligence*
    Students taking this course wll study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.
  - ***GAM 208*** *or* ***IM 208*** *Virtual Worlds and Online Communities*
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This

course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.
- ***IS 208 IT*** *Economy and Society*
  This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.
- ***IT 201*** *Introduction to Information Systems*
  This course examines how various types of computer-based information systems form a critical part of modern organizations, how they work, and how they impact workers, organizations and the economy.
- ***DC 228 or GAM 228 or IT 228*** *Ethics in Computer Games and Cinema*
  Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed. Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

- ***Computer Graphics and Motion Technology***

  - ***ANI 101*** *Animation for Non-Majors*
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology
  - ***ANI 206*** *History of Animation*
    History of Animation: This course is an introduction to the history and development of the field of animation
  - ***GPH 205*** *Historical Foundations of Visual Technology*
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.
  - ***GPH 211*** *Perceptual Principles for Digital Environments I : Arts and Literature*
    An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.
    GPH 212 *Perceptual Principles for Digital Environments II : Arts and Literature*
    Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization
    GPH 213 *Perceptual Principles for Digital Environments III : Arts and Literature*
    These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them
  - ***GPH 259*** *Design Geometry (cross-listed as ART 295)*
    Learn the basics of Computer Aided Design.
  - ***GPH 360*** *Modeling Spaces*
    The digital design and modeling of environmental spaces with attention to human use parameters

- ***Data Analysis and Retrieval***

  - ***CSC 235*** *Problem Solving*
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning
  - ***CSC 239*** *Personal Computing: Scientific Inquiry: Quantitative*
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.
  - ***IT 223*** *Data Analysis* Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.
  - ***IT 240*** *Introduction to Desktop Databases: Personal Computing for Programmers: Scientific Inquiry:*

Elective
Learn introductory concepts in constructing databases and networking files.
- ***HCI 201*** *Multimedia and the World Wide Web: Scientific Inquiry: Quantitative*
  Overview of the Web, its origins and capabilities. Create your own sample web page
- ***ECT 250*** *Internet, Commerce, and Society: Scientific Inquiry: Elective*
  Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function
- ***IT 130*** *The Internet and the Web (formerly ECT 270): Scientific Inquiry: Elective*
  Learn to design your own complex web site!

- ***Codes, Ciphers and Computer Intelligence***

  - ***CSC 233*** *Codes and Ciphers : Scientific Inquiry: Elective*
    A history of code making and breaking and the math and (computer) science behind it
  - ***CSC 250*** *Computers and Human Intelligence : Scientific Inquiry: Quantitative*
    Study how computers are designed to think like people

- ***Digital Cinema and Game Development***

  - ***ANI 101*** *Animation for Non-Majors*
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology.
  - ***ANI 206*** *History of Animation*
    History of Animation: This course is an introduction to the history and development of the field of animation.
  - ***DC 105*** *Digital Media Literacies*
    This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment
  - ***DC 113*** *Audio for Podcasts and Other Media*
    This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote, PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.
  - ***DC 120*** *Video Editing*
    Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student's understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.
  - ***DC 125*** *Digital Still Photography for Non-Majors*
    This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.
  - ***DC 201*** *Introduction to Screenwriting*
    This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.
  - ***DC 202*** *History of Motion Picture Editing*
    This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course adddresses this question.
  - ***DC 205*** *Foundations of Cinema*
    Acquisition and computer representation of sound and image. Sound and video standards. Lossy and Lossless compression. Basic computer graphics and rendering. Distribution of digital

information.

- ***DC 207*** *History of Cinema I, 1890-1945*
  This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting_ filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and as an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length, narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.
- ***DC 208*** *History of American Cinema, 1946-1975*
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.
- ***DC 209*** *History of Cinema, 1975-Present*
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permuations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealth with the formal influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.
- ***DC 222*** *Story Structure in Cinema*
  This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.
- ***DC 227*** *Film Philosophy*
  This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.
- ***DC 233*** *Cinema & Art*
  This course will provide an overview of avant-garde film, video, animation and installation, and the relationship of these cinematic forms to Modern and Contemporary art.
- ***DC 235*** *Adaptation: The Cinematic Recrafting of Meaning*
  This courses explores contemporary cinematic adaptations of literature and how recent re-workings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.
- ***DC 250*** *Working with Actors 1*
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.
- ***DC 274*** *Image,Optics and Cinematic Motion*
  Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.
- ***GAM 206*** *History of Games*
  This class will examine particular games and game genres in their historical context using a case study format
- ***GAM 224*** *Introduction to Game Design*
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.

- ***Graphic Design***
  - ***GD 200*** *Graphic Design I*

This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.
    - ***GD 210*** *Digital Illustration I*
      Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.
    - ***GD 220*** *History of Design I*
      The history of graphic design is an evolution in aesthetics, technology, style and visual communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.
    - ***GD 380*** *Design for Client and Community*
      This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.

- ***Visualization***
    - ***IM 222*** *Information Visualization*
      This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.

Restrictions for CDM Students

A CDM student can take any CDM course approved for liberal studies credit and use it to satisfy a domain of the liberal studies program (LSP) provided the course is NOT required as part of the student's major.

A CDM student can not count a course as a liberal studies requirement and a major requirement. No double counting is allowed for CDM classes by CDM students.

Example 1

- A CGMT student cannot use GPH 211 to satisfy the arts and literature requirement of LSP, as GPH 211 is required by all CGMT tracks.
- An ECT major CAN take GPH 211 to satisfy the arts and literature requirement of the LSP. The course qualifies for a liberal studies program domain that is required by the student's major.

Example 2

- A CS student CAN take GPH 259 to satisfy the Scientific Inquiry (SI)-Quantitative-Lab requirement of LSP because the course is not required by the CS major AND it counts for SI-Lab which is a required domain for CS students.
- A CS student CANNOT take CSC 250 to satisfy SI because, although the course is not required by any or our programs, it qualifies for SI-quantitative (not Lab) which is NOT a required domain for CDM students.

Example 3

- A CS student takes GPH 211 for arts and literature LSP. Although GPH 211 is allowed as an elective even if it is not a 300 level course, the student CANNOT count the course both as satisfying an LSP domain AND as an elective for the CS program.

Combined Bachelor/Master Degrees

Academically gifted students may choose to enroll in the combined degree program. This dual degree program allows students to combine any CDM bachelor's degree with any CDM master's degree, except the joint MA/JD and joint MS/JD degree programs, following the structure outlined below.

Program Structure

Students in the combined degree program take a maximum of three graduate level courses that count toward both their bachelor's and master's degree requirements. Students may enroll in graduate level coursework in the junior and senior year only. Students in the combined degree program will receive the bachelor's degree after meeting all graduation requirements including the standard 192 undergraduate credit hours. The master's degree is awarded after the student completes 10 additional graduate courses (40 credit hours), instead of the standard 13 courses (52 credit hours).

Admission Criteria

- Minimum of 6 courses (24 credit hours) completed at DePaul
- GPA of 3.3 or higher in courses taken at DePaul
- Endorsement of faculty advisor

In order to apply for the BS/MS combined degree program, your faculty advisor must send an e-mail recommendation to Becky Krochmal . The recommendation should include your full name, student ID number, and the BS and MS degrees you wish to apply for.

Bachelor of Arts in Computing students who are enrolled via the School for New Learning are eligible for this program. Interested students who meet the admission criteria for a combined degree should contact Kenn Skorupa at SNL or Becky Krochmal at CDM for more information.

Maintaining Good Standing

- Each student's cumulative GPA and course grades will be reviewed after each Autumn, Winter, and Spring Quarter
- The student and Faculty Advisor will be notified when the student's cumulative GPA falls below 3.3 or when the student receives less than a C- in graduate level course.
- If a student's cumulative GPA falls below 3.3, the student must earn a term GPA of 3.3 or above in the following quarter to stay active. If the student does not achieve a 3.3 term GPA, then the student will be dismissed from the combined program and resume the traditional BA/BS. As long as the student's cumulative GPA is below 3.3, the student must continue to achieve at least a 3.3 term GPA in all following quarters or face dismissal. If, at any point, the student's cumulative GPA is once again 3.3 or higher, term requirements no longer apply.
- If a student does not maintain good standing, they will be dismissed from the Combined Degree and returned to normal undergraduate degree seeking status. Any graduate courses passed before dismissal will not be counted toward graduate credit and may not be retaken (if the student does pursue graduate study, other graduate courses must be substituted). If dismissed students wish to apply to a CDM graduate degree program, they may do so following normal CDM Admission procedures, but will still be required to take 13 graduate courses for a MS degree.

Bachelor's Degree to Master's Degree Transition

After completing the undergraduate degree, when the student is ready to begin the graduate degree, the student should email Becky Krochmal who will process the change of status.

If, upon completion of the bachelor's degree, the student did not meet all prerequisites for the master's degree, then the student will need to complete (course, test or waiver) the missing prerequisites for the chosen master's Degree. If, while still in the undergraduate degree phase, the student receives less than a C- in graduate level course, the course cannot count towards the MS/MA Degree.

Designing a Course of Study

It is extremely important that the student and faculty advisor work together on a course of study immediately upon admission to the Combined Degree Program.

This course of study may include which undergraduate classes to avoid taking in order to take the graduate version. Failure to put together a solid plan can lead to extra coursework and a lengthening of the Combined Degree program.

It is advisable for the student and advisor to enter the proposed plan of study in the student communication record on the CDM intranet so it is available to the student and CDM faculty and staff.

Registering for Master's Degree Courses

Starting in Fall 2010, students will be enrolled in the graduate class instead of the special "Combined Degree Course". The student's advisor must email Associate Dean Lucia Dettori requesting the enrollment. The following information should be included in the email: student's full name, DePaul ID, graduate course and section, and the undergraduate course to be substituted for. Student services will process the enrollment.

Minors

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

MINORS IN THE COLLEGE OF COMMERCE

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the College of Commerce Section for Minor Requirements.

MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. **CDM offers several minors that will appeal to all DePaul University students.**

Political science and *geography* majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

Communications majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give *Commerce* students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

Policies for Academic Minors
Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

CDM Minors for CDM Students

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

Note: If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, ie. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

CDM Minor Requirements

Animation Minor

ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
ANI 231	3D Animation
ANI 206	History of Animation

3 courses from the following list: (at least 1 must be ANI)

DC 201	Introduction to Screenwriting
DC 210	Digital Cinema Production I
DC 220	Editing I

Any ANI course

Computer Graphics Software Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
or **GD 105**	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 372	Principles of Computer Animation

Computer Science Minor

CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
and **CSC 309**	Object-Oriented Programming in C++
or	
CSC 261	Programming Languages I: C/C++
and **CSC 262**	Programming Languages II: C/C++
and **CSC 224**	Java for Programmers
CSC 393	Data Structures in C++
or **CSC 383**	Data Structures and Algorithms in Java
MAT 140	Discrete Mathematics I
CSC 373	Computer Systems I
CSC 374	Computer Systems II

Data Analysis and Data Mining Minor

IT 240	Introduction to Desktop Databases
IT 223	Data Analysis
CSC 324	Data Analysis and Statistical Software II
CSC 367	Introduction to Data Mining
CSC 334	Advanced Data Analysis
2 CDM Electives	

Database Minor

CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
IT 223	Data Analysis
IT 240	Introduction to Desktop Databases
CSC 352	Database Programming
CSC 367	Introduction to Data Mining
1 CDM Elective	

Data Visualization Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 323	Data Analysis
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 372	Principles of Computer Animation
GPH 380	Visualization

Digital Cinema Minor

DC 205	Foundations of Cinema
DC 225	Digital Still Photography
DC 201	Introduction to Screenwriting
DC 220	Editing I

3 courses from the following list:

ANI 101	Animation for Non-Majors
DC 210	Digital Cinema Production I
DC 270	Topics in Digital Cinema
DC 215	Digital Sound Design
DC 275	Cinematography
DC 310	Digital Cinema Production II
DC 320	Editing II
DC 389	The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130	The Internet and the Web
CSC 211	Prorgamming in Java I
CSC 212	Programming in Java II
IT 230	Building Internet Applications
ECT 330	Advanced Internet Application Development
IM 210	Introduction to Human-Computer Interaction

1 course from the following list:

ECT 355	Internet Systems: Collaboration, Commerce, and Media
ECT 360	Introduction to XML
ECT 365	Web Server Operations

Game Design Minor

DC 201	Introduction to Screenwriting
ANI 105	Intro to Visual Design
ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I

GAM 245	Game Development II

Game Programming Minor

GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I
GAM 245	Game Development II
GAM 374	Action Games Programming

2 courses from the following list:

ANI 230	3D Design & Modeling
GPH 321	Computer Graphics Development I
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II

Any other 300-Level **GAM or GPH** course

Graphic Design Minor

GD 105	Intro to Visual Design
GD 200	Graphic Design I
GD 300	Graphic Design II
GD 230	Typography

3 courses from the following list and/or any GD course (at least 1 must be GD):

ANI 101	Animation for Non-Majors
ANI 201	Animation I
ANI 230	3d Design and Modeling
ANI 260	Motion Graphics
ANI 360	Advanced Motion Graphics
DC 125	Digital Still Photography for Non-Majors
DC 220	Editing I
DC 225	Digital Still Photography
DC 321	Production Design
DC 376	Visual Design
IM 220	Interactive Media I
IM 222	Information Visualization
IM 320	Interactive Media II
IM 270	User-Centered Web Design
IT 130	The Internet and the Web

2 of the following courses may substitute for 1 course:

GD 350	Portfolio Workshop
GD 150	Illustrator Workshop
GD 151	Photoshop Workshop
GD 152	Digital Typography Workshop

Information and Computing in the Modern World Minor

ECT 350	Internet, Commerce and Society
HCI 201	Multimedia and the World Wide Web
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
CSC 223	The Impact of Computing Technology on Our Lives
or **IT 228**	Ethics in Computer Games and Cinema
or **CSC 208**	The Computer and Social Responsibility
or **IS 208**	Information Technology, Economy and Society

IS 356	Knowledge Management Systems
or **IS 374**	Management Support Systems
or **IT 398**	Topics in Global Information Technology

Interactive Media Minor

Required Courses

HCI 201	Multimedia and the World Wide Web
or **IT 130**	The Internet and the Web
IM 210	Introduction to Human-Computer Interaction
GD 105	Intro to Visual Design
or **GPH 211**	Perceptual Principles for Digital Environments
IM 220	Interactive Media I
IM 270	User-centered Web Design

2 courses from the following list:

IM 222	Information Visualization
IM 208	Virtual Worlds and Online Communities
IM 230	Scripting for Interactive Media
IM 320	Interactive Media II
IM 330	Advanced Scripting for Interactive Media
IT 231	Web Development I
IM 320	Interactive Media II

Information Systems Minor

IT 240	Introduction to Desktop Databases
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
IS 372	Fundamentals of Software Project Management
IS 373	Introduction to Large Systems Implementation

Information Technology Minor

IT 130	The Internet and the Web
IT 231	Web Development I
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
or **TDC 261**	Basic Communication Systems
IT 215	Analysis and Design Techniques

1 CDM Elective

Network Technology Minor

CSC 211	Programming in Java I
or **CSC 261**	Programming Languages I:C/C++
CSC 212	Programming in Java II
or **CSC 262**	Programming Langauge II:C/C++
IT 201	Introduction to Information Systems
IT 263	Applied Networks and Security
TDC 362	Principles of Data Communication
TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies

Screenwriting Minor

DC 201	Introduction to Screenwriting
DC 222	Classic Hollywood Film Structure
DC 301	Advanced Screenwriting I
DC 302	Advanced Screenwriting II
DC 303	Advanced Screenwriting III
DC 304	Topics in Screenwriting

Security Minor

CSC 211	Programming in Java I
and **CSC 212**	Programmingin Java II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
CSC 233	Codes and Cyphers
or **CSC 333**	Cryptology
CNS 378	Host and Information Security
CNS 320	Computer Forensic and Incident Response
CNS 228	Legal,Ethical and Social Issues in Information Security
CNS 340	Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130	The Internet and the Web
and **IT 231**	Web Development I
and **IT 232**	Web Development II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
or	
CSC 211	Programming inJava I
and **CSC 212**	Programming in Java II
CNS 228	Legal, Ethical and Society Issues in Information Security
CSC 233	Codes and Ciphers
CNS 320	Computer Forensic and Incident Response
CNS 340	Fundamentals of Information Assurance

Software Engineering Minor

CSC 261	Programming Languages I:C/C++
and **CSC 262**	Programming Languages II:C/C++
and **CSC 224**	Java for Programmers
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
CSC 212	Programming in Java II
and then	

CSC 383	Data Structures and Algorithms in Java
SE 325	Principles and Practices of Software Engineering
SE 330	Object-Oriented Modeling
SE 350	Onject -Oriented Software Development

Sound Design Minor

DC 215	Digital Sound Design
DC 312	Music for Film and Video
DC 313	Production Sound
DC 315	Advanced Digital Sound Design

3 courses from the following list

GAM 250	Digital Sound for Computer Games
DC 317	Advanced Sound Mixing for Cinema
DC 318	Advanced Dialogue Recording and Editing
DC 319	Advanced Sound Effects Recording and Editing
DC 313	Sound for Multimedia
DC 203	History of Motion Picture Sound

Television Production Minor

DC 210	Digital Cinema Production I
DC 220	Editing I
DC 271	Introduction to Television Production
DC 272	Writing for Television
TV 289	The Business of Television
TV 320	Editing for Television
TV 301	Television Program Development
DC 372	Topics in TV Production

Visual Computing Minor

MAT 140	Discrete Mathematics I
or **MAT 220**	Linear Algebra with Applications

or **1** quarter of Calculus (Prerequisite for CSC 381)

IT 223	Data Analysis (Prerequsite for CSC 367)
CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis
IT 300	Research Experience
CSC 367	Introduction to Data Mining (IT 223 requirement)

Visual Effects Minor

ANI 230	3D Design & Modeling
ANI 379	Advanced 3D Compositing
DC 220	Editing I
DC 325	Color Correction
VFX 200	Introduction to Visual Effects
VFX 278	Digital Compositing I
VFX 378	DIgital Compositing II

Bachelor of Arts Degree Programs

Animation

The **B.A. in Animation** emphasizes solid traditional animation and storytelling skills, while encouraging experimentation in form, content and medium. Students are free to work in hand-drawn, stop-motion, cut-out and 3D computer animation. They may produce hybrid forms fully integrated with live action video, draw web-based shorts inspired by Hollywood or anime, or design motion graphics for film titles and commercials.

Students will gain a broad foundation in the rich history of the art form, drawing and design skills, and prepare for the future under the guidance of faculty with professional experience in television, film, art and interactive media.Students will have access to the latest in animation technology, computing systems, and software. Students will gain valuable production experience both in class and through internships, and benefit from CDM's relationship with Chicago's many animation and production studios.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Animation:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note** : See information below .)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	ANI 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required: - ART 106 - DC 233 **or** ART 200 -1 Additional Course
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required

Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL/MGT 248 (PI) or REL/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year
GD 105 Intro to Visual Design
ANI 201 * Animation I
ANI 206 History of Animation
DC 201 Introduction to Screenwriting
DC 220 Editing I
ART 218 Figure Drawing
* ANI 101 allowed for transfer students
6 Liberal Studies

Second Year
ANI 220 Storyboarding and Narrative Development
ANI 230 3D Design and Modeling
ANI 231 3D Animation
ANI 320 Hand-Drawn Animation
DC 210 Digital Cinema Production I
ANI 318 Advanced Figure Drawing
6 Liberal Studies

Third Year
ANI 240 Animation Production I
ANI 340 Animation Production II
ANI 222 Illustration Foundations
DC 215 Digital Sound Design
MCS 207 History of Cinema I, 1890-1945
or MCS 208 History of Cinema II, 1945-1975
or MCS 209 History of Cinema III, 1975-Present
3 Liberal Studies
2 Major Electives
2 Open Electives

Fourth Year

ANI 260	Motion Graphics
ANI 394	Animation Project I
ANI 395	Animation Project II Capstone
5 Liberal Studies	
2 Major Electives	
2 Open Electives	

Major Electives
Major electives can be chosen from the following list
Any ANI, ART, DC, GAM, GD, GPH, IM, TV or VFX course **EXCEPT: ART 102, ART 104, ART 105, DC 120 or GPH 211.**

Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a **CDM minor or other minors** are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Digital Cinema

The **B.A. in Digital Cinema** is an innovative motion picture production program dedicated to utilizing the latest cutting-edge digital technology while incorporating classic cinema narrative theory and aesthetics. Students receive hands-on experience with the latest production equipment in the first year and get an insider's view of the industry from experienced faculty. Students in this program will gain practical production experience through classes, internships and the Project Bluelight program working under a group of professionals in a full-length feature film, or working in an all-student independent short productions.

The Bachelor of Arts Program offers three programs of undergraduate study for students:

- The Cinema Production Concentration features a hands-on program in live-action production. With its greater number of electives, students may also develop an interdisciplinary program of study in cinema history and theory.
- The Screenwriting Concentration features a program of study in advanced screenwriting in addition to core courses in cinema production, dramatic literature and cinema history/theory.
- The Television Production Concentration features a hands-on experience with cutting edge digital equipment in studio and field production for video and television. Students apply theoretical concepts while planning and designing programs, capturing, editing (linear and non-linear) and post-production.

- The Sound Concentration features hands-on experience with cutting edge equipment and technologies in production and post-production sound for cinema in addition to other core courses in cinema production and post-production.

The curriculum consists of the DePaul University Liberal Studies Program and Major Field Courses.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Cinema Production Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Cinema Production concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	DC 398*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:

Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction

cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

DC 101	Screenwriting for Majors
DC 110	Foundations of Cinema for Majors
DC 220	Editing I
DC 222	Classic Hollywood Film Structure
DC 206	History of Cinema Production
5 Liberal Studies	
1 Major Elective	
1 Open Elective	

Second Year

ANI 101	Animation for Non-Majors
or ANI 201	Animation I
DC 210	Digital Cinema Production I
DC 270	Topics in Digital Cinema
or DC 370	Advanced Topics in Cinema
DC 215	Digital Sound Design
DC 225	Digital Still Photography
DC 275	Cinematography
DC 376	Visual Design
6 Liberal Studies	

Third Year

DC 323	Pre-production for Cinema
VFX 200	Introduction to Visual Effects
DC 315	Advanced Digital Sound Design
DC 320	Editing II
DC 371	Documentary Production
5 Liberal Studies	
1 Major Elective	
1 Open Elective	

Fourth Year

DC 310	Digital Cinema Production II
DC 389	The Big Picture: The Entertainment Industry
DC 398	Digital Cinema Capstone
4 Liberal Studies	
1 Major Elective	
3 Open Electives	

Major Electives

Major Electives can be chosen for any **200 level DC, ANI, GD, VFX or TV courses.** Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Screenwriting Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Screenwriting concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	DC 398*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)

	* Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

DC 101	Screenwriting for Majors
DC 110	Foundations of Cinema for Majors
DC 222	Classic Hollywood Film Structure
DC 206	History of Cinema Production
DC 227	Film Philosophy
DC 308	Writing On Assignment
5 Liberal Studies	
1 Open Elective	

Second Year

DC 210	Digital Cinema Production I
DC 220	Editing I
DC 349	Acting for Filmmakers
DC 270	Topics in Digital Cinema
6 Liberal Studies	
2 Major Electives	

Third Year

DC 301	Advanced Screenwriting I
DC 302	Advanced Screenwriting II
DC 303	Advanced Screenwriting III
DC 306	Writing the Sitcom
or DC 307	Writing the Episodic Drama
DC 235	Adaptation: The Cinematic Recrafting of Meaning
5 Liberal Studies	
1 Major Elective	
1 Open Elective	

Fourth Year

DC 309	Feature Development
DC 304	Topics in Screenwriting
DC 370	Advanced Topics in Cinema
DC 389	The Big Picture: The Entertainment Industry
DC 398	Digital Cinema Capstone

4 Liberal Studies
1 Major Elective
2 Open Electives

Major Electives

Major Electives can be chosen for any **200 level DC, ANI, GD, VFX or TV courses**

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Television Production Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Television Production concentration): .

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	DC 398*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required

	(See note below)
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

DC 110	Foundations of Cinema for Majors
DC 101	Screenwriting for Majors
DC 220	Editing I
DC 215	Digital Sound Design
DC 225	Digital Still Photography
6 Liberal Studies	
1 Open Elective	

Second Year

ANI 260	Motion Graphics
DC 275	Cinematography
DC 271	Introduction to Television Production
DC 272	Writing for Television
DC 376	Visual Design
VFX 200	Introduction to Visual Effects
5 Liberal Studies	
1 Major Elective	

Third Year

TV 289	The Business of Television
TV 320	Editing for Television
TV 301	Television Program Development
DC 323	Pre-production in Cinema
DC 371	Documentary Production
4 Liberal Studies	
3 Open Elective	

Fourth Year

DC 372	Topics in TV Production
DC 373	Advanced Documentary Production
DC 378	Digital Compositing II
DC 398	Digital Cinema Capstone
5 Liberal Studies	
3 Open Electives	

Major Electives

Major Electives can be chosen for any **200 level DC, ANI, GD, VFX or TV courses**

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. It is suggested that students include the following courses in their electives:

- JOUR 276 Photojournalism
- JOUR 365 Television News
- JOUR 385 Television News II

These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**

Sound Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Sound concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200

Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	DC 398*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

DC 101	Screenwriting for Majors
DC 110	Foundations of Cinema for Majors
DC 210	Digital Cinema Production I
DC 215	Digital Sound Design
DC 220	Editing I
6 Liberal Studies	
1 Open Elective	

Second Year

DC 222	Classic Hollywood Film Structure
DC 225	Digital Still Photography
ANI 101	Animation for Non-Majors
or ANI 201	Animation I
DC 310	Digital Cinema Production II

DC 312	Music for Film and Video
DC 313	Production Sound
5 Liberal Studies	
1 Major Elective	

Third Year

DC 275	Cinematography
DC 315	Advanced Digital Sound Design
DC 317	Advanced Sound Mixing for Cinema
DC 318	Advanced Dialogue Recording and Editing
DC 320	Editing II
4 Liberal Studies	
1 Major Elective	
2 Open Electives	

Fourth Year

DC 319	Advanced Sound Effects Recording and Editing
DC 371	Documentary Production
DC 389	The Big Picture: the Entertainment Industry
DC 398	Digital Cinema Capstone
DC 206	History of Cinema Production
5 Liberal Studies	
2 Open Electives	

Major Electives

Major Electives can be chosen for any **200 level DC, ANI, GD, VFX or TV courses.** Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Bachelor of Science Degree Programs

Animation

The **B.S. in Animation** provides students with a solid foundation in the art of animation and its history combined with insight into the latest techniques used in the rapidly-moving fields of high end 3D animation in the film, television, and game development industries. Students will learn a comprehensive set of skills in 3D including character animation, 3D design and modeling, texturing, lighting, and rigging. 3D courses are designed to provide students with necessary proficiencies while also encouraging creativity and experimentation. Students will have access to the latest in animation software, computing systems, and technologies including motion capture and green screen studios. Students will gain valuable production experience both in class and through internships, and benefit from CDM's relationship with Chicago's largest game development and animation studios.

Concentrations

Cinema Concentration
The technically demanding art of modern 3D character animation is grounded in the core fundamentals of animation mechanics, visual storytelling and acting. Right from the start, students in the Cinema concentration gain hands-on experience bringing digital characters to life. They are given in-depth instruction in the most up-to-date software and technology available, including motion capture and green screen, but the emphasis is always on creativity, experimentation and expression.

Game Art Concentration
Becoming a game development artist requires a solid foundation in animation, visual design principles, color theory, and drawing. Students in the Game Art concentration also receive in-depth instruction in the latest advanced game modeling and animation technology and practices, including motion capture, rigging and digital sculpting. They learn about real-world problem-solving, team dynamics, and pipeline requirements while working alongside programmers and game designers on cross-disciplinary game development projects.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Cinema Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Animation (Cinema Concentration):

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	ANI 395* or GAM 395*
Learning Domains	

Arts and Literature (AL)	3 Courses Required: - ART 106 - DC 233 **or** ART 200 - 1 Additional Course (**Note:** GAM 224 recommended)
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL/MGT 248 (PI) or REL/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GD 105	Intro to Visual Design
ANI 201	Animation I *
ANI 206	History of Animation
ANI 230	3D Design and Modeling
DC 101	Screenwriting for Majors
ART 218	Figure Drawing

* ANI 101 Animation for Non-Majors allowed for transfers
6 Liberal Studies

Second Year

ANI 222	Illustration Foundations
ANI 220	Storyboarding and Narrative Development
ANI 231	3D Animation
ANI 300	3D Character Animation
ART 318	Advanced Figure Drawing
or ART 317	Advanced Figure Sculpture

6 Liberal Studies
1 Major Elective

Third Year

DC 220	Editing I
ANI 240	Animation Production I
ANI 340	Animation Production II
ANI 330	3D Character Modeling
ANI 339	3D Texturing and Lighting
DC 210	Digital Cinema Production I
3 Liberal Studies	
2 Major Electives	
1 Open Elective	

Fourth Year

MCS 207	History of Cinema I, 1890-1945
or MCS 208	History of Cinema II, 1945-1975
or MCS 209	History of Cinema III, 1975-Present
GPH 355	3D Scripting for Animators
DC 215	Digital Sound Design
ANI 332	3D Rigging for Animators
ANI 394	Animation Project I
ANI 395	Animation Project II (Capstone)
5 Liberal Studies	
1 Open Elective	

Major Electives

Major electives can be chosen from any **ANI, DC, GAM, GD, GPH, IM, TV, VFX, or ART** courses except the following: ART 102, ART 104, ART 105, DC 120, or GPH 211.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Game Art Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Animation (Game Art Concentration):

First Year Program	

Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	ANI 395* or GAM 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required: - ART 106 - DC 233 **or** ART 200 - 1 Additional Course (**Note:** GAM 224 recommended)
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL/MGT 248 (PI) or REL/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GD 105	Intro to Visual Design
ANI 201	Animation I *
ANI 206	History of Animation
ANI 220	Storyboarding and Narrative Development

ANI 230	3D Design and Modeling
ART 218	Figure Drawing

* ANI 101 Animation for Non-Majors allowed for transfers
6 Liberal Studies

Second Year

ANI 222	Illustration Foundations
ANI 231	3D Animation
ANI 300	3D Character Animation
ART 318	Advanced Figure Drawing
or ART 317	Advanced Figure Sculpture
GAM 244	Game Development I
ANI 339	3D Texturing and Lighting

6 Liberal Studies

Third Year

ANI 240	Animation Production I
ANI 340	Animation Production II
ANI 330	3D Character Modeling
GAM 341	Introduction to Level Design
ANI 344	Visual Design for Games
GAM 245	Game Development II

3 Liberal Studies
2 Major Electives
1 Open Elective

Fourth Year

GAM 392	Game Modification Workshop
ANI 332	3D Rigging for Animators
GPH 355	3D Scripting for Animators
GAM 394	Game Development Project I
and	
GAM 395	Game Development Project II (Capstone)
or ANI 394	Animation Project I
and	
ANI 395	Animation Project II (Capstone)

5 Liberal Studies
1 Major Elective
1 Open Elective

Major Electives

Major electives can be chosen from any **ANI, DC, GAM, GD, GPH, IM, TV, VFX, or ART** courses except the following: ART 102, ART 104, ART 105, DC 120, or GPH 211.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)

- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Computer Games Development (Joint with SoC)

The **B.S. in Computer Game Development** prepares students to work in the multi-disciplinary field of computer gaming and interactive media. This program also requires strong mathematical and programming skills. CDM's Computer Game Development program combines coursework in game programming, game design, 3D Modeling, animation, physics, and artificial intelligence. Students work in cross-disciplinary teams to design and develop games. This program was created in consultation with our Game Dev Industry Advisory Board, and is the result of input from many of the top game programmers, producers and designers in the Chicago area.

Concentrations

Production and Design Concentration
Students in this concentration receive an education in all areas of game development, including game design, programming and animation, but also the basic business skills of project management, budgeting, contract negotiation, marketing and quality assurance.

Game Programming Concentration
Students in this concentration engage in the rigorous study of computer science basics, and then apply this knowledge to the demanding specialization of game programming. Areas of study include computer graphics development, computer science, linear algebra, game physics, and artificial intelligence programming.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Production & Design Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Production and Design Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required

Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GAM 395*
Learning Domains	
Arts and Literature (AL)	3 courses required: - DC 201 - 2 Additional Courses
Philosophical Inquiry (PI)	2 Courses Required: - DC 228/IT 228 - 1 Additional Course
Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GAM 226	Game Design for Majors
GD 105	Intro to Visual Design
GAM 244	Game Development I
GAM 245	Game Development II
ANI 101	Animation for Non-Majors
or ANI 201	Animation I
7 Liberal Studies	

Second Year

GAM 230	Intro to Game Production
MAT 150	Calculus I
CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
GAM 341	Introduction to Level Design
ANI 230	3D Design & Modeling
5 Liberal Studies	
1 Major Elective	

Third Year

ANI 231	3D Animation
GAM 250	Digital Sound for Computer Games
GAM 374	Fundamentals of Game Programming I
IM 220	Interactive Media I

WRD 204	Technical Writing
4 Liberal Studies	
3 Major Electives	

Fourth Year

GAM 333	The Business of Games
GAM 392	Game Modification Workshop
GAM 394	Game Development Project I
GAM 395	Game Development Project II (Capstone)
3 Liberal Studies	
1 Major Elective	
4 Open Electives	

Major Electives

Major electives can be chosen from the following list
200 level ANI, DC, GAM, GD, GPH, or IM courses
300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. Click here for details . Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Game Programming Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Game Programming Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	

Experiential Learning	Required
Senior Year	
Capstone	GAM 395*
Learning Domains	
Arts and Literature (AL)	3 courses required: - DC 201 - ANI 101 -1 Additional Course
Philosophical Inquiry (PI)	2 courses required: - DC 228/IT 228 - 1 Additional Course
Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GAM 226	Game Design For Majors
GD 105	Intro to Visual Design
GAM 244	Game Development I
CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
MAT 150	Calculus I
MAT 151	Calculus II
5 Liberal Studies	

Second Year

GAM 245	Game Developoment II
CSC 393	Data Structures in C++
ANI 230	3D Design & Modeling
7 Liberal Studies	
2 Major Electives	

Third Year

CSC 373	Computer Systems I
CSC 374	Computer Systems II
GAM 350	Physics for Game Developers
GAM 374	Fundamentals of Game Programming I
GAM 377	Fundamentals of Game Programming II
GPH 321	Computer Graphics Development I
GPH 329	Computer Graphics Development II
4 Liberal Studies	
1 Major Elective	

Fourth Year

GAM 376	Artificial Intelligence for Computer Games
GPH 389	Real-Time Graphics Techniques
GAM 392	Game Modification Workshop
GAM 394	Game Development Project I
GAM 395	Game Development Project II (Capstone)
3 Liberal Studies	
1 Major Elective	
3 Open Electives	

Major Electives

Major electives can be chosen from the following list
200 level ANI, DC, GAM, GPH, or IM courses
300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**

Computer Graphics and Motion Technology (Joint with SoC)

The **B.S. in Computer Graphics and Motion Technology** prepares students who have a passion for art, math or technology for a multitude of career paths in computer graphics animation. Graduates from this major create visuals for video games, scientific and aerospace visualization, movies, television, and advertising. Students in this program will learn

- Design and analysis of mathematics/computer science programming principles for computer graphic design.
- History and theory of graphic design (color theory, perception).
- Usability and human-computer interaction.
- Hands-on, practical knowledge of digital photography, 3D animation, 3D modeling, texturing and rendering.
- Visual communication techniques.
- Real world experience working in a group as a contributing team member.

- Creating animation in a production pipeline environment.

Concentrations

Developer Concentration
This concentration prepares students for careers in graphics software development, with courses in programming lanaguages (C/C++) and mathematics (calculus and algebra), in addition to animation and computer graphics.

Technical Designer Concentration
This concentration prepares students interested in visual aspects, including lighting setup, shader development, scripting and character rigging.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

Developer Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Developer Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GPH 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If

students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

CSC 261	Programming in C++ I
CSC 262	Programming in C++ II
CSC 393	Data Structures in C++
GPH 211	Perceptual Principles for Digital Environments I
or GD 105	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Environments II
ANI 201	Animation I
MAT 140	Discrete Mathematics I

One of the following two-course sequences

Calculus Sequence (option 1)

MAT 150	Calculus I
MAT 151	Calculus II

Calculus for Mathematics and Science Majors Sequence (option 2)

MAT 160	Calculus for Mathematics and Science Majors I
MAT 161	Calculus for Mathematics and Science Majors II

Calculus with Scientific Applications Sequence (option 3) Recommended

MAT 170	Calculus I with Scientific Applications
MAT 171	Calculus II with Scientific Applications

3 Liberal Studies

Second Year

GPH 325	Survey of Computer Graphics
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 321	Computer Graphics Development I
or MAT 220	Linear Algebra with Applications
CMNS 220	Public Speaking

7 Liberal Studies

Third Year

GPH 372	Principles of Computer Animation
CSC 321	Design and Analysis of Algorithms
IM 315	Theory and Perception of Color
WRD 204	Technical Writing

5 Liberal Studies

3 Major Electives

Fourth Year

GPH 375	Advanced Graphics Development
GPH 388	Production Pipeline Techniques
GPH 389	Real-Time Graphics Techniques
GPH 395	Computer Graphics Senior Project (Capstone)

4 Liberal Studies

1 Major Elective

3 Open Electives

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300	3D Character Animation
ANI 310	Motion Capture Workshop
ART 225	Beginning Photography
ART 329	Advanced Digital Photography
ART 360	Illustration
ART 373	History of Design
GPH 336	Smooth Surface Modeling for Graphics and Animation
GPH 340	Procedural Shading
GPH 341	Advanced Lighting Techniques
GPH 348	Rigging for Animation
GPH 376	Artificial Intelligence in Computer Games
GPH 380	Visualization
GPH 389	Real-Time Graphics Techniques
GPH 345	Digital Surface Modeling
GPH 259	Design Geometry
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II
GPH 358	Computer Graphics Automation
GPH 360	Modeling Spaces
GPH 374	Computer Games
GPH 375	Advanced Graphics Development
IM 210	Introduction to Human-Computer Interaction
IM 270	User-Centered Web Design
IM 322	Multimedia
IM 330	Advanced Scripting for Interactive Media
or IM 336	Interactive Media Scripting for Programmers *
IT 223	Data Analysis Self Placement Test
MAT 150	Calculus I
MAT 151	Calculus II
MAT 152	Calculus III

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude

- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Technical Designer Concentration :

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Technical Designer Concentration).

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	GPH 395*
Learning Domains	
Arts and Literature (AL)	3 Courses Required - HAA 130 - ART 106 - 1 Additional Course
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

IM 230	Scripting for Interactive Media
and IM 330	Advanced Scripting for Interactive Media
or CSC 261	Programming in C++ I
and CSC 262	Programming in C++ II
GPH 211	Perceptual Principles for Digital Environments I
or GD 105	Intro to Visual Design
GPH 212	Perceptual Principles for Digital Environments II
ANI 201	Animation I
MAT 140	Discrete Mathematics I
5 Liberal Studies	

Second Year

GPH 345	Digital Surface Modeling
GPH 255	Hand Prototyping for Graphic Visualization
GPH 325	Survey of Computer Graphics
GPH 358	Computer Graphics Automation
IM 210	Introduction to Human-Computer Interaction
HAA 115	Principles of Asian Art
CMNS 220	Public Speaking
5 Liberal Studies	

Third Year

IM 315	Theory and Perception of Color
or ART 205	Color Theory and Application
GPH 259	Design Geometry
GPH 338	Survey of 3-D Animation
GPH 339	Advanced Rendering Techniques
HAA 242	Art From 1945 - 1975
WRD 204	Technical Writing
6 Liberal Studies	
1 Major Elective	

Fourth Year

GPH 388	Production Pipeline Techniques
GPH 395	Computer Graphics Senior Project (Capstone)
3 Liberal Studies	
4 Major Electives	
3 Open Electives	

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300	3D Character Animation
ANI 310	Motion Capture Workshop
ART 225	Beginning Photography
ART 329	Advanced Digital Photography
ART 360	Illustration
GPH 259	Design Geometry
GPH 336	Smooth Surface Modeling for Graphics and Animation
GPH 340	Procedural Shading
GPH 341	Advanced Lighting Techniques

GPH 348	Rigging for Animation
GPH 376	Artificial Intelligence in Computer Games
GPH 380	Visualization
GPH 389	Real-Time Graphics Techniques
GPH 345	Digital Surface Modeling
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II
GPH 358	Computer Graphics Automation
GPH 360	Modeling Spaces
GPH 374	Computer Games
GPH 375	Advanced Graphics Development
HAA 263	History of Design
IM 210	Introduction to Human-Computer Interaction
IM 270	User-Centered Web Design
IM 322	Multimedia
IM 330	Advanced Scripting for Interactive Media
or IM 336	Interactive Media Scripting for Programmers *
IT 223	Data Analysis Self Placement Test
MAT 150	Calculus I
MAT 151	Calculus II
MAT 152	Calculus III

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Digital Cinema

The **B.S. in Digital Cinema** at DePaul CDM is an innovative program that seeks to define and to develop the evolving relationship between cinema production technologies and creative artistic expression. The intensive technical emphasis of the Bachelor of Science degree prepares students for work in live-action special effects,

3-D animation, and game development. Students receive hands-on experience with the latest production equipment in the first year and get an insider's view of the industry from experienced faculty. Students in this program will gain practical production experience through classes, internships and the Project Bluelight program working under a group of professionals in a full-length feature film, or working in an all-student independent short productions.

Online Learning Options

A few courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Digital Cinema:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 & LSP 121 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	DC 398*
Learning Domains	
Arts and Literature (AL)	3 Courses Required: - ANI 206 - 2 Additional Courses
Philosophical Inquiry (PI)	2 Courses Required *(See note below)*
Religious Dimensions (RD)	2 Courses Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required
Understanding the Past (UP)	2 Courses Required
Notes:	1 of the PI or RD courses must be an ethics course. Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL228/MGT 228 (RD) * Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:

Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

DC 110	Foundation of Cinema for Majors
DC 101	Screenwriting for Majors
GD 105	Intro to Visual Design
DC 225	Digital Still Photography
DC 220	Editing I
6 Liberal Studies	
1 Open Elective	

Second Year

ANI 201	Animation I
ANI 230	3D Design and Modeling
VFX 200	Introduction to Visual Effects
DC 215	Digital Sound Design
DC 275	Cinematography
DC 210	Digital Cinema Production I
DC 222	Classic Hollywood Film Structure
5 Liberal Studies	

Third Year

VFX 278	Digital Compositing I
ANI 231	3D Animation
ANI 260	Motion Graphics
DC 375	Advanced Cinematography
DC 315	Advanced Digital Sound Design
DC 310	Digital Cinema Produciton II
5 Liberal Studies	
1 Open Elective	

Fourth Year

VFX 378	Digital Compositing II
DC 320	Editing II
DC 325	Color Correction
DC 206	Introduction to Film History
DC 398	Digital Cinema Capstone
4 Liberal Studies	
3 Open Elective	

Major Electives

No major elective is required.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy **a CDM minor or other minors** are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Interactive Media (Joint with SoC)

The **B.S. in Interactive Media** degree prepares students for the expanding field of interaction design and its application to multimedia and web development. The base program integrates technical and artistic disciplines. Technical concepts and skills involve web markup languages, interactive scripting and human-centered design. The student also explores artistic areas of study such as communication design, animation, game design and cinema.A major in interactive media provides students with broad skills and expertise including:

- Develop well-designed web pages, sites, and interactive applications
- Design, code and create content for casual games
- Conduct usability tests for interactive web sites
- Employ visual design principles to express ideas and concepts
- Create prototypes for interactive displays

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Interative Media:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	LSP 112
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	Not Required
Sophomore Year	

Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required
Senior Year	
Capstone	Required*
Learning Domains	
Arts and Literature (AL)	3 Courses Required: - DC 205 - 2 Additional Courses
Philosophical Inquiry (PI)	2 Courses Required: - CSC 208 **or** IT 228 - 1 Additional Course
Religious Dimensions (RD)	2 Courses Required
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	3 Courses Required: - PSY 105 - 2 Additional Courses
Understanding the Past (UP)	2 Courses Required
Note:	* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

ANI 101	Animation for Non-Majors
or ANI 201	Animation I
GD 105	Intro to Visual Design
IT 130	The Internet and the Web
IT 240	Introduction to Desktop Databases
IM 270	User-Centered Web Design
ART 260	Art and Design I: History,Concept,Structure
6 Liberal Studies	

Second Year

IT 231	Web Development I
IM 210	Introduction to Human-Computer Interaction
IM 220	Interactive Media I
IM 230	Scripting for Interactive Media

IT 223	Data Analysis
ANI 230	3D Design & Modeling
ART 264	Typography I
5 Liberal Studies	

Third Year

IM 320	Interactive Media II
IM 330	Advanced Scripting for Interactive Media
IM 360	User-Centered Evaluation
GAM 244	Game Development I
WRD 204	Technical Writing
4 Liberal Studies	
3 Major Electives	

Fourth Year

IM 394	Human-Computer Interaction Capstone
or CSC 394	Software Projects (Capstone)
4 Liberal Studies	
2 Major Elective	
5 Open Electives	

Major Electives

Major electives can be chosen from the following list
Any 200- or 300-level CDM,ART or CMN course.

Any of the following:

PSY 241	Research Methods I
PSY 242	Research Methods II
PSY 360	Theories of Learning and Cognition
PSY 375	Sensation and Perception
PSY 380	Industrial and Organizational Psychology
PSY 383	Psychology of Design

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Bachelor of Fine Arts Degree Programs

Graphic Design

The **BFA in Graphic Design** at DePaul CDM provides a balance of conceptual, creative and technical design skills. Students will gain a strong foundation in both traditional and computer-based forms of graphic design with a professional orientation actively preparing students for the job market as well as their own creative practice. A unique feature of this degree is its practice in the allied fields of cinema, animation, game development and interaction design. Graduating students will be prepared for design careers in advertising, book and web design, motion graphics, photography, poster design, signage, typography, multimedia, print, visual design, art direction and title design in cinema, television, games, and interactive media, among others.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL) . If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page .

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BFA in Graphic Design:

First Year Program	
Chicago Quarter	LSP 110 **or** LSP 111
Focal Point	Not Required
Writing	WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy	LSP 120 (**Note :** See information below)
Sophomore Year	
Multiculturalism in the US	LSP 200
Junior Year	
Experiential Learning	Required (**Note:** GD 380 recommended)
Senior Year	
Capstone	Two Course Sequence Required: GD 394 - Capstone Project I GD 395 - Capstone Project II
Learning Domains	
Arts and Literature (AL)	2 Courses Required from following list: - Any HAA course approved for A&L - ANI 206 History of Animation - DC 202 History of Film Editing - DC 233 Cinema and Art - MCS 207 History of Cinema I - MCS 208 History of Cinema II - MCS 209 History of Cinema III

Philosophical Inquiry (PI)	1 Course Required *(See note below)*
Religious Dimensions (RD)	1 Course Required *(See note below)*
Scientific Inquiry (SI)	1 SI Lab Course Required
Self, Society and the Modern World (SSMW)	1 Course Required
Understanding the Past (UP)	1 Course Required
Notes:	* Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.
The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

GD 105	Intro to Visual Design
GD 150	Illustrator Workshop *
GD 151	Photoshop Workshop *
GD 200	Graphic Design I
GD 230	Typography
IT 130	The Internet and the Web
ANI 101	Animation for Non-Majors **
or ANI 201	Animation I
DC 225	Digital Still Photography
or ART 224	Beginning Digital Photography
ART 106	Beginning Drawing

* 2 quarter hours of credit
** ANI 101 Animation for Non-Majors allowed for transfer students
5 Liberal Studies

Second Year

GD 210	Digital Illustration I
GD 220	History of Design I
GD 221	History of Design II
DC 220	Editing I
IM 220	Interactive Media I
IM 270	User-Centered Web Design

4 Liberal Studies
3 Major Electives

Third Year

GD 270	Semiotics and Visual Design
GD 300	Graphic Design II
ANI 230	3D Design and Modeling
ANI 260	Motion Graphics

ANI 360	Advanced Motion Graphics
GD 152	Digital Typography Workshop *
GD 350	Portfolio Workshop *
IM 320	Interactive Media II
2 Liberal Studies	
2 Major Electives	
2 Open Electives	

* 2 quarter hours of credit

Fourth Year

GD 330	Advanced Typography
GD 340	Publication Design
GD 360	Advertising Design
GD 394	Capstone Project I
GD 395	Capstone Project II
DC 376	Visual Design
DC 321	Production Design
2 Liberal Studies	
2 Major Electives	
2 Open Electives	

Major Electives
Major electives can be chosen from the following list:

Any GD,ANI,IM,DC,GAM,TV,VFX or ART course.
EXCEPT: ART 102,ART 104,ART 105,DC 120 or GPH 211.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.
Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 208 credit hours (generally 54 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook** .

Special Programs

Minors

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

MINORS IN THE COLLEGE OF COMMERCE

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the College of Commerce Section for Minor Requirements.

MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. **CDM offers several minors that will appeal to all DePaul University students.**

Political science and *geography* majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

Communications majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give *Commerce* students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

Policies for Academic Minors
Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

CDM Minors for CDM Students

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

Note: If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, ie. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

CDM Minor Requirements

Animation Minor

ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
ANI 231	3D Animation
ANI 206	History of Animation

3 courses from the following list: (at least 1 must be ANI)

DC 201	Introduction to Screenwriting
DC 210	Digital Cinema Production I
DC 220	Editing I
Any ANI course	

Computer Graphics Software Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
or **GD 105**	Intro to Visual Design

GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 339	Advanced Rendering Techniques
GPH 372	Principles of Computer Animation

Computer Science Minor

CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
and **CSC 309**	Object-Oriented Programming in C++
or	
CSC 261	Programming Languages I: C/C++
and **CSC 262**	Programming Languages II: C/C++
and **CSC 224**	Java for Programmers
CSC 393	Data Structures in C++
or **CSC 383**	Data Structures and Algorithms in Java
MAT 140	Discrete Mathematics I
CSC 373	Computer Systems I
CSC 374	Computer Systems II

Data Analysis and Data Mining Minor

IT 240	Introduction to Desktop Databases
IT 223	Data Analysis
CSC 324	Data Analysis and Statistical Software II
CSC 367	Introduction to Data Mining
CSC 334	Advanced Data Analysis
2 CDM Electives	

Database Minor

CSC 211	Programming in Java I
and **CSC 212**	Programming in Java II
IT 223	Data Analysis
IT 240	Introduction to Desktop Databases
CSC 352	Database Programming
CSC 367	Introduction to Data Mining
1 CDM Elective	

Data Visualization Development Minor

Liberal Studies

GPH 211	Perceptual Principles for Digital Environments I
GPH 212	Perceptual Principles for Digital Environments II

Course Requirements

CSC 261	Programming Languages I: C/C++
CSC 262	Programming Languages II: C/C++
CSC 323	Data Analysis
CSC 393	Data Structures in C++
GPH 329	Computer Graphics Development II
GPH 372	Principles of Computer Animation
GPH 380	Visualization

Digital Cinema Minor

DC 205	Foundations of Cinema
DC 225	Digital Still Photography
DC 201	Introduction to Screenwriting
DC 220	Editing I

3 courses from the following list:

ANI 101	Animation for Non-Majors
DC 210	Digital Cinema Production I
DC 270	Topics in Digital Cinema
DC 215	Digital Sound Design
DC 275	Cinematography
DC 310	Digital Cinema Production II
DC 320	Editing II
DC 389	The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130	The Internet and the Web
CSC 211	Prorgamming in Java I
CSC 212	Programming in Java II
IT 230	Building Internet Applications
ECT 330	Advanced Internet Application Development
IM 210	Introduction to Human-Computer Interaction

1 course from the following list:

ECT 355	Internet Systems: Collaboration, Commerce, and Media
ECT 360	Introduction to XML
ECT 365	Web Server Operations

Game Design Minor

DC 201	Introduction to Screenwriting
ANI 105	Intro to Visual Design
ANI 101	Animation for Non-Majors
or **ANI 201**	Animation I
ANI 230	3D Design & Modeling
GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors
GAM 244	Game Development I
GAM 245	Game Development II

Game Programming Minor

GAM 224	Introduction to Game Design
or **GAM 226**	Game Design for Majors

GAM 244	Game Development I
GAM 245	Game Development II
GAM 374	Action Games Programming

2 courses from the following list:

ANI 230	3D Design & Modeling
GPH 321	Computer Graphics Development I
GPH 329	Computer Graphics Development II
GPH 350	Digital Modeling II

Any other 300-Level **GAM or GPH** course

Graphic Design Minor

GD 105	Intro to Visual Design
GD 200	Graphic Design I
GD 300	Graphic Design II
GD 230	Typography

3 courses from the following list and/or any GD course (at least 1 must be GD):

ANI 101	Animation for Non-Majors
ANI 201	Animation I
ANI 230	3d Design and Modeling
ANI 260	Motion Graphics
ANI 360	Advanced Motion Graphics
DC 125	Digital Still Photography for Non-Majors
DC 220	Editing I
DC 225	Digital Still Photography
DC 321	Production Design
DC 376	Visual Design
IM 220	Interactive Media I
IM 222	Information Visualization
IM 320	Interactive Media II
IM 270	User-Centered Web Design
IT 130	The Internet and the Web

2 of the following courses may substitute for 1 course:

GD 350	Portfolio Workshop
GD 150	Illustrator Workshop
GD 151	Photoshop Workshop
GD 152	Digital Typography Workshop

Information and Computing in the Modern World Minor

ECT 350	Internet, Commerce and Society
HCI 201	Multimedia and the World Wide Web
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
CSC 223	The Impact of Computing Technology on Our Lives
or **IT 228**	Ethics in Computer Games and Cinema
or **CSC 208**	The Computer and Social Responsibility
or **IS 208**	Information Technology, Economy and Society
IS 356	Knowledge Management Systems
or **IS 374**	Management Support Systems
or **IT 398**	Topics in Global Information Technology

Interactive Media Minor

Required Courses

HCI 201	Multimedia and the World Wide Web
or **IT 130**	The Internet and the Web
IM 210	Introduction to Human-Computer Interaction
GD 105	Intro to Visual Design
or **GPH 211**	Perceptual Principles for Digital Environments
IM 220	Interactive Media I
IM 270	User-centered Web Design

2 courses from the following list:

IM 222	Information Visualization
IM 208	Virtual Worlds and Online Communities
IM 230	Scripting for Interactive Media
IM 320	Interactive Media II
IM 330	Advanced Scripting for Interactive Media
IT 231	Web Development I
IM 320	Interactive Media II

Information Systems Minor

IT 240	Introduction to Desktop Databases
IT 201	Introduction to Information Systems
IT 215	Analysis and Design Techniques
IS 372	Fundamentals of Software Project Management
IS 373	Introduction to Large Systems Implementation

Information Technology Minor

IT 130	The Internet and the Web
IT 231	Web Development I
IT 240	Introduction to Desktop Databases
IT 263	Applied Networks and Security
or **TDC 261**	Basic Communication Systems
IT 215	Analysis and Design Techniques

1 CDM Elective

Network Technology Minor

CSC 211	Programming in Java I
or **CSC 261**	Programming Languages I:C/C++
CSC 212	Programming in Java II
or **CSC 262**	Programming Langauge II:C/C++
IT 201	Introduction to Information Systems
IT 263	Applied Networks and Security
TDC 362	Principles of Data Communication
TDC 363	Introduction to Local Area Networks
TDC 365	Network Interconnection Technologies

Screenwriting Minor

DC 201	Introduction to Screenwriting
DC 222	Classic Hollywood Film Structure
DC 301	Advanced Screenwriting I
DC 302	Advanced Screenwriting II
DC 303	Advanced Screenwriting III

DC 304	Topics in Screenwriting

Security Minor

CSC 211	Programming in Java I
and **CSC 212**	Programmingin Java II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
CSC 233	Codes and Cyphers
or **CSC 333**	Cryptology
CNS 378	Host and Information Security
CNS 320	Computer Forensic and Incident Response
CNS 228	Legal,Ethical and Social Issues in Information Security
CNS 340	Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130	The Internet and the Web
and **IT 231**	Web Development I
and **IT 232**	Web Development II
or	
CSC 261	Programming Language I: C/C++
and **CSC 262**	Programming Language II:C/C++
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
or	
CSC 211	Programming inJava I
and **CSC 212**	Programming in Java II
CNS 228	Legal, Ethical and Society Issues in Information Security
CSC 233	Codes and Ciphers
CNS 320	Computer Forensic and Incident Response
CNS 340	Fundamentals of Information Assurance

Software Engineering Minor

CSC 261	Programming Languages I:C/C++
and **CSC 262**	Programming Languages II:C/C++
and **CSC 224**	Java for Programmers
or	
CSC 241	Introduction to Computer Science I
and **CSC 242**	Introduction to Computer Science II
and **CSC 224**	Java for Programmers
or	
CSC 211	Programming in Java I
CSC 212	Programming in Java II
and then	
CSC 383	Data Structures and Algorithms in Java
SE 325	Principles and Practices of Software Engineering
SE 330	Object-Oriented Modeling
SE 350	Onject -Oriented Software Development

Sound Design Minor

DC 215	Digital Sound Design
DC 312	Music for Film and Video
DC 313	Production Sound
DC 315	Advanced Digital Sound Design
3 courses from the following list	
GAM 250	Digital Sound for Computer Games
DC 317	Advanced Sound Mixing for Cinema
DC 318	Advanced Dialogue Recording and Editing
DC 319	Advanced Sound Effects Recording and Editing
DC 313	Sound for Multimedia
DC 203	History of Motion Picture Sound

Television Production Minor

DC 210	Digital Cinema Production I
DC 220	Editing I
DC 271	Introduction to Television Production
DC 272	Writing for Television
TV 289	The Business of Television
TV 320	Editing for Television
TV 301	Television Program Development
DC 372	Topics in TV Production

Visual Computing Minor

MAT 140	Discrete Mathematics I
or **MAT 220**	Linear Algebra with Applications
or **1** quarter of Calculus (Prerequisite for CSC 381)	
IT 223	Data Analysis (Prerequsite for CSC 367)
CSC 381	Introduction to Digital Image Processing
CSC 382	Applied Image Analysis
IT 300	Research Experience
CSC 367	Introduction to Data Mining (IT 223 requirement)

Visual Effects Minor

ANI 230	3D Design & Modeling
ANI 379	Advanced 3D Compositing
DC 220	Editing I
DC 325	Color Correction
VFX 200	Introduction to Visual Effects
VFX 278	Digital Compositing I
VFX 378	DIgital Compositing II

Professional Development

The College of Computing and Digital Media established the Institute for Professional Development in 1985 to

offer certificate programs designed to meet the needs of both individuals and businesses in the Chicagoland area. These non-degree offerings provide intensive training in a wide variety of areas, with each standalone certificate program addressing a different set of theoretical concepts and practical skills. Emphasis is placed on gaining practical experience through a combination of lectures and demonstrations complemented by laboratory exercises and homework assignments. Certificate programs are typically taught by a team of instructors, that includes both full-time faculty and part-time instructors from industry. The programs require a substantial commitment of time, as most meet two nights per week and in the morning on approximately half of the Saturdays during the program.

For application and registration information pertaining to the certificate programs offered by the Institute for Professional Development, please call the Institute office at (312) 362-6282.

Current certificate program offerings include:

IPD 354 Cloud Computing Infrastructure and Operations Program
A 6-week program in the architectures, infrastructure, and operations of Cloud Computing

IPD 355 Cloud Computing Fundamentals Program
An 11-week program in the principles, methods, and technologies of Cloud Computing

IPD 356 Web Development with Ajax Technologies Program
A 7-week program covering Web development with Ajax technologies

IPD 357 Wireless LAN Security Program
An 8-week program covering the latest solutions in wireless LAN security

IPD 358 SharePoint Developer Program
A 10-week comprehensive program covering Microsoft SharePoint development

IPD 359 Web Development with Python Program
A 5-week program covering Web development with the Python programming language.

IPD 360/460 SQL Server Business Intelligence Program
An 11-week in-depth program covering SQL Server analysis services, integration services, and reporting services

IPD 363 SQL Server Database Administration Program
An 11-week in-depth program covering database administration using SQL Server

IPD 364 Lightweight Java Web Development Program
An 8-week comprehensive program covering open-source, lightweight Java enterprise Web development using POJOs (Plain Old Java Objects)

IPD 365 Ruby on Rails Program
A 8-week in-depth program covering Web development using Ruby on Rails

IPD 366 Java Web Services Program
A 7-week concentrated program covering service-oriented architecture and the development of Web services using Java

IPD 370 Advanced SQL Program
A 2-week program covering advanced Structured Query Language (SQL) features

IPD 380 IT Project Management Program
A 10-week comprehensive program covering best practices in IT project management

IPD 382 Java Developer Program
A 10-week comprehensive program covering object-oriented applications development using Java

IPD 389 .NET Developer Program
A 10-week comprehensive program covering .NET technologies

Combined Bachelor/Master Degrees

Academically gifted students may choose to enroll in the combined degree program. This dual degree program allows students to combine any CDM bachelor's degree with any CDM master's degree, except the joint MA/JD and joint MS/JD degree programs, following the structure outlined below.

Program Structure

Students in the combined degree program take a maximum of three graduate level courses that count toward both their bachelor's and master's degree requirements. Students may enroll in graduate level coursework in the junior and senior year only. Students in the combined degree program will receive the bachelor's degree after meeting all graduation requirements including the standard 192 undergraduate credit hours. The master's degree is awarded after the student completes 10 additional graduate courses (40 credit hours), instead of the standard 13 courses (52 credit hours).

Admission Criteria

- Minimum of 6 courses (24 credit hours) completed at DePaul
- GPA of 3.3 or higher in courses taken at DePaul
- Endorsement of faculty advisor

In order to apply for the BS/MS combined degree program, your faculty advisor must send an e-mail recommendation to Becky Krochmal . The recommendation should include your full name, student ID number, and the BS and MS degrees you wish to apply for.

Bachelor of Arts in Computing students who are enrolled via the School for New Learning are eligible for this program. Interested students who meet the admission criteria for a combined degree should contact Kenn Skorupa at SNL or Becky Krochmal at CDM for more information.

Maintaining Good Standing

- Each student's cumulative GPA and course grades will be reviewed after each Autumn, Winter, and Spring Quarter
- The student and Faculty Advisor will be notified when the student's cumulative GPA falls below 3.3 or when the student receives less than a C- in graduate level course.
- If a student's cumulative GPA falls below 3.3, the student must earn a term GPA of 3.3 or above in the following quarter to stay active. If the student does not achieve a 3.3 term GPA, then the student will be dismissed from the combined program and resume the traditional BA/BS. As long as the student's cumulative GPA is below 3.3, the student must continue to achieve at least a 3.3 term GPA in all following quarters or face dismissal. If, at any point, the student's cumulative GPA is once again 3.3 or higher, term requirements no longer apply.
- If a student does not maintain good standing, they will be dismissed from the Combined Degree and returned to normal undergraduate degree seeking status. Any graduate courses passed before dismissal will not be counted toward graduate credit and may not be retaken (if the student does pursue graduate study, other graduate courses must be substituted). If dismissed students wish to apply to a CDM graduate degree program, they may do so following normal CDM Admission procedures, but will still be required to take 13 graduate courses for a MS degree.

Bachelor's Degree to Master's Degree Transition

After completing the undergraduate degree, when the student is ready to begin the graduate degree, the student should email Becky Krochmal who will process the change of status.

If, upon completion of the bachelor's degree, the student did not meet all prerequisites for the master's degree, then the student will need to complete (course, test or waiver) the missing prerequisites for the chosen master's Degree. If, while still in the undergraduate degree phase, the student receives less than a C- in graduate level course, the course cannot count towards the MS/MA Degree.

Designing a Course of Study

It is extremely important that the student and faculty advisor work together on a course of study immediately upon admission to the Combined Degree Program.

This course of study may include which undergraduate classes to avoid taking in order to take the graduate version. Failure to put together a solid plan can lead to extra coursework and a lengthening of the Combined Degree program.

It is advisable for the student and advisor to enter the proposed plan of study in the student communication record on the CDM intranet so it is available to the student and CDM faculty and staff.

Registering for Master's Degree Courses

Starting in Fall 2010, students will be enrolled in the graduate class instead of the special "Combined Degree Course". The student's advisor must email Associate Dean Lucia Dettori requesting the enrollment. The following information should be included in the email: student's full name, DePaul ID, graduate course and section, and the undergraduate course to be substituted for. Student services will process the enrollment.

Courses

Courses

Please visit Campus Connection at https://campusconnect.depaul.edu for current course information. If you do not have a password for Campus Connection you may log on as a guest. Once you are on Campus Connection please select Course Catalog followed by the department.