

SECONDARY EDUCATION CHEMISTRY (BS)

The Bachelor of Science program in Secondary Education Chemistry prepares students to teach 5th through 12th grade in a variety of urban and suburban education settings, including public and private middle schools and high schools.

Students learn educational theories and effective teaching practices, participate in field experiences, which require observation and participation in teaching activities at multiple schools, and student teaching. Students should meet early and regularly with their advisor to design and monitor their program of study.

The program combines theoretical principles of education and field work with the student's choice of major. Students follow a general pattern of study for middle school and high school levels. In all cases, appropriate field experience plays an integral role.

In addition to completing the requirements for licensure in Illinois, and in aligning with a commitment to preparing students with a global mindset, teacher candidates will also complete the requirements to gain a certificate in Teaching and Learning from the International Baccalaureate Organization. The IB Certificate in Teaching and Learning for the Middle Years Program (MYP) and the Diploma Program (DP) provides teacher candidates the background and expertise to teach in an IB school. The IB Certificate in Teaching and Learning expands the opportunities for teacher candidates and training in IB open expands the vision of inquiry and reflective practice.

Students entering the program must be able and willing to devote themselves to a program requiring a minimum of 100 hours of daytime field experiences in schools. These school-based clinical hours are completed in conjunction with methodology courses that require students to spend a half-day each week in a school. As students will be completing requirements to earn the IB Certificate, some hours may be in International Baccalaureate Schools. In addition, the student must spend a minimum of 11 weeks in full-time student teaching in a designated middle or high school.

Please make sure you consult the Liberal Studies Requirements, Major Requirements, and College Core Requirements for full degree requirements.

NOTE: Secondary Education students now have the option to double major in Secondary Education and Chemistry. With the double major, students will graduate with a Bachelor of Arts or Bachelor of Science degree with a major in Secondary Education and a major in Chemistry. Students should declare Secondary Education as their primary major (see Secondary Education BA/BS for degree requirements) and Chemistry (see Chemistry BA or Chemistry BS for degree requirements) as their secondary major. If you have already begun the Secondary Education Chemistry major and want to switch to the Secondary Education Major and Chemistry double major, you should contact your academic advisor because the double major may require additional coursework. Students who pursue the Bachelor of Science degree with a major in Secondary Education Chemistry do not have the option to double major in Chemistry.

Licensure

Illinois Professional Educator License with endorsement in Middle and Secondary Education Science-Chemistry (grades 5-12), an Illinois State Board of Education (ISBE) approved program. Graduates who earn an

initial Professional Educator License in grades 9-12 may also qualify for a subsequent endorsement (<https://catalog.depaul.edu/colleges-schools/education/endorsements/graduate-endorsements/subsequent-license/>) for grades 5-8.

Program Requirements	Quarter Hours
Liberal Studies Requirements	74
Major Requirements	122
Total hours required	196

Learning Outcomes

Students will be able to:

- Use knowledge of adolescent learners to create safe, equitable, and meaningful learning environments and collaborative classrooms.
- Demonstrate and apply disciplinary content and pedagogical content knowledge with an emphasis on developing students' conceptual understanding and disciplinary literacy.
- Plan and deliver instruction that demonstrates knowledge of adolescent learners and content.
- Implement assessment practices to evaluate student learning and inform instruction.
- Exhibit professionalism, pursue professional growth, and advocate for adolescent learners and their communities.

College Core Requirements Dispositions

The academic programs within the College of Education have set forth these dispositions as educational and professional expectations for all students. Students should be aware that failing to abide by DePaul University or College of Education policies including, under certain circumstances, these dispositions, could result in adverse consequences for the student, including removal from his or her program, the College of Education, or the University.

The following dispositions apply to Early Childhood Education, Elementary Education, Exercise Science, Middle Grades, Physical Education, Secondary Education, and World Language Education majors only:

- Reflects on progress and identifies strengths and weaknesses, including evaluating strategies for success, finding alternatives for inappropriate strategies, and modifying future practices
- Is receptive to faculty feedback and acts meaningfully and professionally upon suggestions
- Values critical thinking, including engaging theoretical and philosophical frameworks and shows evidence of critical thinking through discussion and writing (e.g., journals, response to prompts)
- Understands the importance of and is committed to communicating clearly orally and in writing both in traditional and in new and emerging digital formats
- Values and is committed to continually developing strong content area knowledge and/or knowledge of the professional field, including pedagogical content knowledge
- Takes initiative, uses imagination and creativity, and seeks out information using a variety of human and material resources and technology to inform his or her teaching

- Is aware of the role of classroom environment and uses management procedures that reflect respect and care for learners and concern for their emotional and physical well being
- Takes the time and effort needed to understand how students learn, including discovering their interests and experiences and determining how to shape teaching acts (using technology as appropriate) that engage learners meaningfully and actively
- Values and is committed to using assessment to evaluate and ensure the continuous intellectual, social, emotional, and physical development of the learner
- Respects and considers cultural contexts in order to determine how to be responsive to learners and to proactively promote all students' learning
- Values and is responsive to diverse learners' academic, emotional, and social needs through teaching acts (including careful instructional planning, implementation, and differentiation) and through everyday interactions with students
- Is committed to collaboration with colleagues, families, and communities in order to promote all students' learning and development
- Recognizes and fulfills professional responsibilities and habits of conduct (e.g., dress, language, preparedness, attendance, punctuality, etc.)
- Demonstrates collegiality, honesty, good judgment, courtesy, respect, and diplomacy
- Balances self-confidence and assertiveness with respect for others' perspectives
- Respects the requirements, expectations, and procedures of both the College of Education and of our field partners and appreciates the issues of trust, fairness, and professionalism involved

The following dispositions apply to Special Education majors only:

- Is receptive to faculty feedback and acts meaningfully and professionally upon suggestions
- Reflects on his or her own progress, identifies strengths and weaknesses, and evaluates strategies for success and professional growth
- Takes initiative
- Is open to new ideas and engagement in learning
- Respects diversity and cultural contexts to determine how to be responsive to learners and to proactively promote all students' learning
- Expresses positive attitudes toward individuals with disabilities and a willingness to advocate on their behalf
- Is committed to collaboration with colleagues, families, and communities in order to promote all students' learning and development
- Demonstrates professional ethical and legal behavior as defined by the respective codes of ethics and laws
- Demonstrates consistent professional behavior across all academic settings
- Maintains appropriate interpersonal and professional boundaries
- Accepts personal responsibility for one's behavior
- Expresses feelings and opinions effectively and appropriately
- Upholds confidentiality

Skill Building Courses

Before taking any math or English courses, students must take the DePaul placement tests to determine if skill level is at the college level. If placement indicates skill level in these courses, the courses become part of degree requirements. Consult with your advisor regarding placement test results and any required classes.

Modern Language Competence Requirement

Students pursuing a Bachelor of Arts degree in the College of Education will be required to demonstrate a measure of competence in a modern language, as defined by the college. Such competence may be demonstrated in one of several ways:

- completing two years of a language sequence in high school
- completing the last course in the first-year college sequence of any language
- completing a college course beyond the first-year level in any language
- achieving a satisfactory score on any of the Modern Language placement examinations administered at DePaul
- achieving a satisfactory rating in a proficiency examination accepted by DePaul
- achieving a score of 3 or higher on the Advance Placement (AP) test for any language
- achieving a score of 5 or higher in the Language B assessment from a Standard or Higher Level International Baccalaureate (IB) program
- achieving a satisfactory score on the CLEP examination

Please note: The Modern Language Competence Requirement is not required for students in the Early Childhood Education: SCPS Joint Program (BAECE) program. Modern Languages courses with an E-designation are taught in English and may not be applied to the Modern Language Requirement.

For further information regarding satisfactory scores and possible credit from the DePaul placement, AP, CLEP, or IB examinations, please contact the Office of the University Registrar.

Students who complete an Inter-College Transfer (ICT) to the College of Education will abide by the COE Modern Language Requirement in place on the effective date of the ICT.

B.A. students who meet College requirements and wish to pursue further work in the language may elect the Language for Liberal Studies Option (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-program-guidelines/language-for-liberal-studies-option/>) of the Liberal Studies Program. While B.S. students are not required to demonstrate competency in a modern language, the Language for Liberal Studies Option is available to them for language study at any level. Modern Languages courses with an E-designation are taught in English and may not be applied to the Modern Language Requirement.

Licensure Tests

All individuals licensed by the Illinois State Board of Education (ISBE) are required to complete licensure tests specific to their teaching license. The Academic Success Center can provide help through tutoring, workshops, and online resources to help each student succeed.

Field Experiences

Each student seeking licensure from the College of Education/ Professional Education Unit must complete supervised field experiences

in appropriate settings in conjunction with education courses. The field experiences must include a variety of grade levels, multicultural experiences, and a minimum of 10 hours in special education settings. All field experiences must be completed prior to final approval for student teaching. Field experience hours should be entered by the student into the FEDS system when completing courses with field experience requirements.

Endorsements

An endorsement is a statement appearing on a license that identifies the specific subjects or grade level that the license holder is authorized to teach.

The Illinois State Board of Education (ISBE) issues endorsements in various subject areas. To view the full list and requirements, visit the ISBE website.

Please note that the Illinois State Board of Education (ISBE) may change the state licensure and endorsement requirements at any time and without prior notice. Individuals are bound by the requirements in place when applying for the license or endorsement, not the requirements in place when beginning the program.

Student Teaching Requirements

Student Teaching is the culminating clinical experience in the student's program. All students in teacher preparation programs must meet the following requirements before applying for student teaching:

Academic Requirements

- Completion of all Liberal Studies, Introductory, Advanced and concentration/content area courses
- Overall cumulative GPA of 2.50 or better
- Cumulative GPA of 2.75 or better in all education courses
- Meet all other program requirements (e.g., modern language and residency requirements)
- Meet designated program standards
- Pass the required Illinois licensure content area test(s)

Clinical Requirements

- Completion of all required field experiences
- Three satisfactory evaluations in field experiences
- Three satisfactory faculty recommendations
- Attendance at mandatory meeting for student teaching
- Application for student teaching, resume, transcripts, and writing sample (check deadlines)
- Review and approval by Student Teaching Committee of the College of Education

Student Teaching Timeline and Deadlines

- Attend a Mandatory Meeting approximately 1 year prior to expected quarter of student teaching.
- Submit application for student teaching after attending Mandatory Meeting, approximately 1 year prior to student teaching.
- Academic requirements are due one quarter before expected quarter of student teaching.
- Content area tests must be passed prior to Student Teaching (deadlines apply).
- Clinical requirements are completed as course requirements. Field experience hours are entered by the student as coursework is completed.

Online Faculty Evaluations are entered by the instructor of relevant courses. All data must be entered in the Field Experience Documentation System (FEDS) due one month prior to student teaching.

Individual childcare agencies and public and private school districts may have additional requirements (application, training, background check, etc.).

Degree Conferral and Graduation

The awarding of a degree is not automatic. You must submit an application to be considered for the degree. DePaul awards and posts degrees at the end of each regular academic term (autumn, winter, spring, summer).

It is your responsibility to initiate the degree conferral application process by submitting an online application. Submitting an application means you intend to finish your degree requirements by the end of the term for which you have applied.

Undergraduate students must be approved for student teaching and complete student teaching and capstone to be cleared for the degree. Student must submit graduation application for the quarter that matches the quarter you are student teaching.

After you submit the application, you cannot register for any term after the one selected in the application.

To apply for degree conferral, log on to Campus Connection. Select STUDENT CENTER, then MY ACADEMICS. On screen instructions will take you through the application process.

Provided that all requirements and financial obligations are met, degrees are posted 30 days after the official end of the term. Official dates are listed on the Academic Calendar.

DePaul holds one commencement ceremony each year in June. If you intend to participate, you must first apply for degree conferral for the current academic year and then submit a cap and gown order. Honors announced at the ceremony for undergraduates are based on winter quarter GPAs because a final GPA is not available at the time of the ceremony. Eligibility for the June Commencement ceremony is limited to individuals that complete the entirety of their program (including student teaching) within the same academic year (prior to the ceremony).

Additional information about degree conferral and graduation can be found on the College of Education website at: <http://education.depaul.edu/>.

Licensure

Requirements for licensure include completion of full bachelor's degree program, all licensure tests (including OPI for world language majors), and awarding of bachelor's degree. A bachelor's degree is required to qualify for licensure and must be awarded before applying for the license.

Individuals must submit an application directly to the Illinois State Board of Education after completion of requirements and after DePaul has submitted notification to ISBE. Application requirements include application form, application fee, official transcripts, and registration fee.

All individuals must meet ISBE requirements in place at the time of application for the license. Requirements are subject to change per the discretion of ISBE. All coursework and requirements pertaining to licensure requirements must be completed before DePaul University can recommend an individual for the license.

Individuals seeking additional endorsements after applying for the licensure must contact ISBE directly for an evaluation request.

All coursework and requirements must be completed before DePaul University can recommend an individual for the license.

Teacher Licensure

Sept 1, 2015 begins the implementation of a new requirement for any individual seeking teaching licensure in the State of Illinois. The new requirement is the Teacher Performance Assessment (“edTPA”), which is mandated by the Illinois State Board of Education (ISBE) for anyone that completes student teaching in Fall 2015 and beyond. EdTPA is an assessment conducted during the student teaching experience. For this assessment, teacher candidates are required to create video clips of instruction, lesson plans, student work samples, analyses of student learning, and teacher candidate reflective commentaries for a learning segment and submit these components using an electronic portfolio to Evaluation Systems an outside agency that is a group of Pearson Publishing. The portfolio will be independently evaluated by a panel of trained reviewers hired by Pearson. For this service a fee is charged. The panel of scorers of edTPA are selected and trained by Evaluation Systems. DePaul University is neither affiliated with Evaluation Systems nor Pearson Publishing and by ISBE regulation cannot be involved in edTPA registration, submission of portfolios, or scoring of individual teacher candidate portfolios. Institutions of higher education are required by the Illinois State Board of Education to provide teacher candidates with information to prepare for edTPA; however, the process of edTPA is external to DePaul University and is not monitored by DePaul University's College of Education.

Liberal Studies Requirements

Honors program requirements can be found in the individual Colleges & Schools section of the Academic Catalog. Select the appropriate college or school, followed by Undergraduate Academics and scroll down.

First Year Program		Hours
Chicago Quarter		
LSP 110	DISCOVER CHICAGO	4
or LSP 111	or EXPLORE CHICAGO	
Focal Point		
LSP 112	FOCAL POINT SEMINAR	4
Writing		
WRD 103	COMPOSITION AND RHETORIC I ¹	4
WRD 104	COMPOSITION AND RHETORIC II ¹	4
Quantitative Reasoning		
Not Required		
Sophomore Year		
Race, Power, and Resistance		
LSP 200	SEMINAR ON RACE, POWER, AND RESISTANCE	4
Junior Year		
Experiential Learning		
Met by successful completion of required field experience hours		
Senior Year		
Capstone		

TCH 387 CAPSTONE SEMINAR IN SECONDARY EDUCATION ²

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¹ Students must earn a C- or better in this course.

² This must be taken with student teaching. Students must earn a C or better in this course.

Learning Domains

Arts and Literature (AL) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/arts-and-literature/>)

- 3 Courses Required

Historical Inquiry (HI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/historical-inquiry/>)

- 2 Courses Required
(Note: One must be US History.)

Math and Computing (MC) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/math-and-computing/>)

- Not Required

Philosophical Inquiry (PI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/philosophical-inquiry/>)

- 2 Courses Required
 - LSE 380
 - 1 Additional Course
(Note: PHL 100 recommended)

Religious Dimensions (RD) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/religious-dimensions/>)

- 2 Courses Required

Scientific Inquiry (SI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/scientific-inquiry/>)

- 1 SWK Course Required
(Note: This must be in Biology.)

Social, Cultural, and Behavioral Inquiry (SCBI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/social-cultural-and-behavioral-inquiry/>)

- 3 Courses Required
 - PSC 120
 - 2 Additional Courses

Notes

Specified required courses within Liberal Studies may have grade minimums (e.g. C- or better). Please consult your advisor or your college and major requirements.

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 student's major and is cross-listed with a course within the student's 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.

Major Requirements

Course Requirements

Content Area Courses

Chemistry Core: 40 quarter hours required, grade of C or better required

Course	Title	Quarter Hours
CHE 130 & CHE 131	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHE 132 & CHE 133	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LABORATORY II	4
CHE 134 & CHE 135	GENERAL CHEMISTRY III and GENERAL CHEMISTRY LABORATORY III	4
CHE 230 & CHE 231	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LABORATORY I	4
CHE 232 & CHE 233	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY II	4
CHE 234 & CHE 235	ORGANIC CHEMISTRY III and ORGANIC CHEMISTRY LABORATORY III	4
CHE 204 & CHE 205	ANALYTICAL CHEMISTRY and ANALYTICAL CHEMISTRY LABORATORY	4
CHE 302 & CHE 303	QUANTUM CHEMISTRY and EXPERIMENTAL PHYSICAL CHEMISTRY I	4
CHE 304 & CHE 305	THERMOCHEMISTRY and EXPERIMENTAL PHYSICAL CHEMISTRY II	4
CHE 340 & CHE 341	BIOCHEMISTRY I and EXPERIMENTAL BIOCHEMISTRY I	4

Mathematics Core: 12 quarter hours required, grade of C or better required

Course	Title	Quarter Hours
Select one of the following:		4-6
MAT 147	CALCULUS WITH INTEGRATED PRECALCULUS I	
MAT 150	CALCULUS I	
Select one of the following:		4-6
MAT 148	CALCULUS WITH INTEGRATED PRECALCULUS II	
MAT 151	CALCULUS II	
Select one of the following:		4-6
MAT 149	CALCULUS WITH INTEGRATED PRECALCULUS III	
MAT 152	CALCULUS III	

Physics Core: 12 quarter hours required, grade of C or better required

Course	Title	Quarter Hours
PHY 170	UNIVERSITY PHYSICS I	4
PHY 171	UNIVERSITY PHYSICS II	4
PHY 172	UNIVERSITY PHYSICS III	4

Introductory Courses: 20 quarter hours required, grade of C or better required

Course	Title	Quarter Hours
SCU 207	SOCIAL AND HISTORICAL ISSUES IN EDUCATION	4
TCH 302	INTRODUCTION TO MIDDLE GRADES AND SECONDARY EDUCATION	4
TCH 314	THE NATURE OF SCIENCE	4
TCH 324	INQUIRY & APPLICATION IN DEVELOPING SCIENCE PEDAGOGY	4
TCH 303	CONCEPTIONS OF HEALTHY ADOLESCENCE	4

Advanced Courses: 28 quarter hours required, grade of C or better required

Course	Title	Quarter Hours
SER 346	STRATEGIES FOR MAINSTREAMING AND INCLUSION	4
TCH 325	LITERACY IN THE CONTENT AREAS	4
TCH 374	TEACHING THE SCIENCES IN THE MIDDLE GRADES AND HIGH SCHOOL 1	4
TCH 385	TEACHING THE SCIENCES IN THE MIDDLE GRADES AND HIGH SCHOOL 2	4
TCH 380	THE TEACHER AS PROFESSIONAL ¹	4
TCH 395	ASSESSMENT PRACTICES IN THE MIDDLE GRADES AND SECONDARY EDUCATION	4
BBE 301	TEACHING ADOLESCENT ENGLISH LANGUAGE LEARNERS AND DIALECT SPEAKERS ACROSS THE CURRICULUM	4

¹ Taken in conjunction with TCH 385.

Student Teaching: 10 quarter hours required, grade of B- or better required

Registration in student teaching requires completion of all requirements and procedures above. EDU 95 indicates to the Illinois State Board of Education that all field experience hours are complete. All students also take TCH 387, Capstone Seminar with student teaching (listed in the Liberal Studies section).

Course	Title	Quarter Hours
TCH 392	MIDDLE GRADES AND SECONDARY STUDENT TEACHING	10
EDU 95	CLINICAL EXPERIENCE WITH CHILDREN AND YOUTH (non-credit, non-tuition, PA grade required)	0

Licensure Tests

All individuals licensed by the Illinois State Board of Education (ISBE) are required to complete licensure tests specific to their teaching license.

Secondary Education Chemistry majors must complete the following tests:

- Science: Chemistry Content Area Test (test #106) – assesses knowledge of both geological and chemical science. Test is required before Student Teaching (deadlines apply)
- EdTPA - assessment conducted during the student teaching experience including video clips of instruction, lesson plans, student work samples, analysis of student learning and reflective commentaries. Students will submit an electronic portfolio to an outside agency for independent evaluation and a fee will be imposed by that agency as part of the assessment.