

CHEMISTRY WITH SECONDARY CERTIFICATION

Students will accumulate a total of approximately 120 credit hours to graduate with a B.S. degree in chemistry and with secondary education certification. To complete both graduation and certification requirements within four years, it is essential to schedule courses carefully and to pay close attention to certification deadlines. The following suggested sequence is designed to help guide you through both graduation and certification procedures. Please keep in mind that certification requirements can often change, so it is vital that you maintain contact with your academic advisor as well as those in the Office of Field Services. The following individuals should be able to help you if you have any questions:

Dr. Joseph W. Shane – Chemistry Education advisor in the Department of Chemistry

- Course scheduling and advising
- Arranging and documenting field experiences in local schools
- Methods courses (EDU 440/441)

Dr. Peggy Hockersmith – Associate Dean of the College of Education and Human Services

- Questions regarding certification application
- Deadlines and requirements for Praxis testing, etc.

Ms. Donna Ackelsburg – Clerk typist in the College of Education and Human Services

- Questions regarding field experiences during methods courses
- Questions regarding placement for student teaching
- Professional standing, Levels I and II

Please note that secondary certification has several requirements in addition to the graduation requirements. Keep in mind that all education students are required to maintain a 3.0 GPA to receive certification in Pennsylvania. Many questions can be answered by familiarizing yourself with the website for the Office of Field Services (<http://webpace.ship.edu/teacher/>). It is recommended that you bookmark this on your internet browser. Many of the testing dates and forms that you will need are available here.

During your freshman and sophomore years, you will accumulate a total of 30 hours of educational field experiences to satisfy what is called the Level I education requirement at SU. These hours are quite flexible and usually include a combination of chemistry tutoring and observations in local high schools and middle schools. Dr. Shane will work with you on arranging and documenting these hours.

Also, all education majors must pass the first level of PRAXIS assessments after earning between 48 and 60 credit hours. These tests, called the PPST reading, writing, and math assessments, are required for certification, and these tests must be passed before you can take any 300 level or above education course. Information regarding testing dates and application procedures is available in the Office of Field Services or on their website.

Once you have met the Level I and aforementioned PRAXIS requirements, you will apply for Level II, which corresponds to the semester that you take your methods courses, EDU 440 and EDU 441. When you apply for Level II through the Field Services Office *the semester before your methods classes*, you will also need to have criminal background checks at both the state and federal level, a child abuse clearance, and a TB (tuberculosis) test performed. As with PRAXIS testing, information for the two background checks and the TB test are available in the Office of Field Services.

To reach Level III, which is your student teaching semester, a few other requirements must be met in addition to successful completion of Level I and II. There is another PRAXIS assessment to test your understanding of chemistry, called Chemistry: Content Knowledge. This must be passed before you can student teach and it is usually taken during the semester that you take your methods courses, although you can take it at any time. Also, since these expire after one year, you will need to be sure your criminal background check, child abuse clearance, and TB tests are still valid. It is essential to note that you must apply for student teaching through the Office of Field Services *one year – rather than one semester – before* you plan to actually student teach. This gives the Office of Field Services plenty of time to find an appropriate placement.

If you intend to apply for certification in another state (Maryland, New Jersey, etc.) be sure to speak with the people listed above to determine the requirements, which may be different from those in Pennsylvania.

Finally, keep in mind that the Pennsylvania Department of Education (PDE) also requires all of its teachers to have six credits of English courses, including a literature course. Typically, ENG 250, Introduction to Literature, is recommended, but fiction, drama, and poetry courses can also fulfill this requirement. Also, one of your science courses must have a focus on environmental issues. At SU, the courses that fit this requirement include ESS 108 (Conservation of Natural Resources), ESS 111 (Introduction to Atmosphere), ESS 110 (Introduction to Geology), BIO 145 (Problems of the Environment), BIO 208 (Field Biology), and BIO 242 (Ecology).

Freshman Year

Fall Semester

Course	Credits
CHM 121: Chemical Bonding	3
CHM 123: Laboratory IA - Chemical Systems	2
MAT 211: Calculus I	4
HIS 105: World History I	3
1 General Education/Required Course	3
	Total Credits: 15

Spring Semester

Course	Credits
CHM 122: Chemical Dynamics	3
CHM 124: Laboratory IIA – Exp. Quantitative Analysis	2
MAT 212: Calculus II	4
BIO 116: Principles of Biology II	4
HIS 106: World History II	3
	Total Credits: 16

Sophomore Year

Fall Semester

Course	Credits
CHM 221: Modern Organic Chemistry I	3
CHM 223: Laboratory IIIA – Exp. Organic Techniques	2
PHY 205: Intermediate Physics I	4
PSY 101: General Psychology	3
2 General Education/Required Courses	6
	Total Credits: 18

Spring Semester

Course	Credits
CHM 222: Modern Organic Chemistry I	3
CHM 224: Laboratory IVA – Qualitative Organic Analysis	2
PHY 313: Intermediate Physics II	4
TCH 260: Educational Psychology	3
1 or 2 General Education/Required Courses	6
	Total Credits: 18

Junior Year

Fall Semester

Course	Credits
CHM 361: Physical Chemistry I	4
CHM 371: Analytical Chemistry	4
TCH 205: The American School	3
2 General Education/Required Courses	6
	Total Credits: 17

Spring Semester

Course	Credits
CHM 362: Physical Chemistry II	4
CHM 381: Advanced Inorganic Chemistry	4
EEC 411: Introduction to Exceptionality ¹	3
2 General Education/Required Courses	6
	Total Credits: 17

¹ EEC 411 also counts as your Diversity requirement for graduation.

Senior Year

Fall Semester

Course	Credits
CHM 301: Biochemistry	3
EDU 440: Teaching Science in Sec. Schools	3
EDU 441: Curriculum and Eval. In Sec. Sci.	3
CHM 4xx: Chemistry Elective (usually offered in Fall semester) ²	3
1 or 2 General Education/Required Courses	3/6
	Total Credits: 15/18

²The CHM 4xx: Chemistry Elective class may be taken any semester during the junior and senior years if the course-specific prerequisites are met by the student. Only one 400 level chemistry course is required for graduation.

Spring Semester

Course	Credits
EDU 495: Student Teaching	15

Four Year Credit Total: 121

All chemistry majors will take a comprehensive examination in their junior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.