



Program Coordinators: S. Pickard for Chemistry and R. Gilmore for Education

Teacher Education - CHEMISTRY

The B.S. in Chemistry (with Licensure for Grades 6-12) is available with modifications to the Chemistry major and the King Core Curriculum as well as successful completion of the Secondary Education minor. Licensed teachers in secondary education are in great demand, and science is considered a critical need area in K-12 public education by all fifty states.

Declaration of the Education minor and early and frequent advisement is essential to timely completion of degree and licensure requirements. Students seeking teacher licensure will be assigned a secondary education advisor in the Department of Teacher Education, in addition to their major advisor. See the “Admission to the Teacher Education Program” section of this catalog or contact the Certification Advisor in the School of Education for eligibility criteria, admissions procedures, and timelines.

Student Learning Outcomes for Teacher Education

In addition to the discipline specific student learning outcomes for Chemistry, teacher candidates will demonstrate mastery of the following Student Learning Outcomes, which are aligned with the both Tennessee Teacher Licensure Standards: Professional Education and InTASC Standards: Interstate Teacher Assessment and Support Consortium.

1. The pre-service teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make the discipline(s) accessible and meaningful for learners to assure mastery of the content.
2. The pre-service teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.
3. The pre-service teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections and to build skills to apply knowledge in meaningful ways.

Core Curriculum Requirements

Chemistry majors seeking teaching licensure should fulfill specified categories of the King Core Curriculum by taking the courses indicated below. See the “The Core Curriculum” section of the catalog for additional details on fulfillment of other categories.

Science

CHEM 1110

General Chemistry I..... 4 s.h.

Quantitative Literacy

MATH 2350

Calculus I 4 s.h.

BS in Chemistry Requirements for 6-12 Teaching Licensure

General Science and Physical Science Core

In addition to General Chemistry I, taken for general education credit, all science licensure candidates must complete this list of courses that encompass all the natural and physical sciences:

BIOL 2110	
General Biology I	4 s.h.
CHEM 1120	
General Chemistry II	4 s.h.
GEOG 2010	
Physical Geography	3 s.h.
PHYS 2210	
General Physics I	4 s.h.

Chemistry Major Requirements

CHEM 2110	
Organic Chemistry I	4 s.h.
CHEM 2120	
Organic Chemistry II	4 s.h.
CHEM 3000	
Analytical Chemistry I	4 s.h.
CHEM 3200	
Analytical Chemistry II	4 s.h.
CHEM 4000	
Physical Chemistry I	5 s.h.
<i>Choose from the following courses</i>	<i>4 s.h.</i>
MATH 2360	
Calculus II (4 s.h.)	
CHEM 4200	
Physical Chemistry II (4 s.h.)	
PHYS 2220	
General Physics II (4 s.h.)	
IDST 4500	
Interdepartmental Science Seminar	2 s.h.

NOTE: *Students in the Chemistry Secondary Education Track are not required to take CHEM 4930 Chemistry Capstone or CHEM 4990 Comprehensive Assessment. Instead they are required to take the PRAXIS exams for Secondary Education licensure in Chemistry, which serve as their comprehensive assessment for Chemistry knowledge.*

Secondary Education Minor

EDUC 2030	
Introduction to Teaching: K-Grade 12	2 s.h.
EDUC 2031	
Introduction to Teaching Practicum, Grades PreK-12	1 s.h.
EDUC 2100	
Survey of Exceptional Children	4 s.h.
EDUC 2370	
Reflective Teaching: Planning for Classroom Instruction	3 s.h.

EDUC 2900	
Foundations of Education	3 s.h.
EDUC 2950	
Technology for Teachers	2 s.h.
EDUC 3390*	
Secondary Curriculum and Methods	3 s.h.
EDUC 3590*	
Content Area Reading.....	3 s.h.
EDUC 3600*	
Assessment and Evaluation	3 s.h.
EDUC 4490*	
Student Teaching: Grades 6-10.....	5 s.h.
EDUC 4500*	
Student Teaching: Grades 9-12.....	5 s.h.
EDUC 4940	
Introduction to edTPA	1 s.h.
EDUC 4950*	
Capstone Seminar: Grades K-12	2 s.h.
PSCI 2120	
Cultural Diversity in America.....	4 s.h.
PSYC 3320	
Adolescent Development.....	4 s.h.

*Requires admittance to the Teacher Education Program

Summary of Total Credits for Chemistry with Secondary Licensure

Core Curriculum	42 s.h.
Science Core + Chemistry Major Requirements.....	42 s.h.
Secondary Education Minor.....	45 s.h.
Minimum to Complete 6-12 Licensure Program in Chemistry	129 s.h.