

**CHEMISTRY, CONCENTRATION—TEACHER CERTIFICATION FOR GRADES 7-12 ACADEMIC MAP:
DEGREE BS (123 CREDIT HOURS)**

This degree map is a semester-by-semester course schedule for students majoring in [Chemistry with a concentration in Teacher Certification for Grades 7-12](#). The milestones listed to the right of each semester are designed to keep a student on track to graduate in four years. The schedule serves as a general guideline to help build a full schedule each semester. Milestones are courses and special requirements necessary for timely progress to complete a major. When one or more milestones are missed, students should consult with an academic advisor to determine if another degree path would be more suitable.

All candidates for certification in secondary education must complete a minimum of 123 semester hours, which includes:

- a general education core (42 hours),
- a professional education core (31 hours, including a 9-hour course in enhanced student teaching), and a
- major concentration of content and knowledge courses (32 hours).

The required courses in Chemistry are 1110, 1111, 1120, 1121, 2100, 2101, 2010, 2011, 2020, 2021, 3000, 3210, 3211, 3410, 3710, 4705, 4724 and 4910. Successful completion of this program provides one with a license to teach Chemistry in grades 7-12 in Tennessee public schools.

Students seeking the Bachelor of Science Degree with licensure must make written application for admission to the Teacher Education Program in the College of Education, usually during the sophomore year. They must have a 2.75 cumulative quality point average at time of application and must pass the Pre-Professional Skills Test (PPST) or the Computer-Based Academic Skills Assessments Test (CBT). Students who have previously earned a 21 on the ACT, 22 on the Enhanced ACT, or a combined 990 on the verbal and mathematical portions of the SAT are exempt from the PPST and the CBT.

Enhanced student teaching requires placement of eight weeks at the secondary level and seven weeks at the middle school level. For a complete list of requirements for admission to and retention in the Teacher Education Program, see the College of Education section.

Upper-division Admission

For admission into the upper-division programs of the Chemistry major, students must complete all of the requirements listed above under General Education Core. In addition, they must have removed all high school deficiencies, passed all required remedial/developmental courses, earned a cumulative grade point average of at least 2.0 on college-level coursework, and completed the Senior Exit Examination. In addition, they must have earned a grade of C or better in CHEM 1110 or 1112, 1111 or 1113, 1120 or 1122, 1121 or 1123, 2100, 2101, 2010 or 2012, 2011 or 2013, 2020 or 2022, and 2021 or 2023. Honors sections of chemistry courses will also fulfill the degree requirements. Chemistry Majors are recommended to take honors courses.

Tennessee State University recognizes that students have diverse learning, life, and professional experiences. The University provides opportunities for students to earn college credit toward the degree through a number of assessment options that evaluate their learning experiences. These paths are grouped under the category "Prior Learning Assessment" (PLA). Various means of earning PLA credit at TSU are the following: Advance Placement Program, American Council of Education (ACE) Military Credit, American Council on Education (ACE) other Assessed Credit, College Level Exam Program (CLEP), DSST Credit by Examination Program (includes DANTES Examination), Institutional Course Challenge Exams (Departmental Exams), International Baccalaureate Credit, Other Military Service, Portfolio Assessment. To learn more about PLA contact your academic advisor or the Office of Student Support Services for Adult and Distance Learners (615) 963-7001.

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Fall Schedule		Milestones
Semester 1	Hrs.	Semester 1
CHEM 1110, 1111	4	Minimum grade "C" required. Must have completed MATH 1110
ENGL 1010	3	Pre-Requisite Course: Must be taken before HIST 2010, HIST 2020, HIST 2030, HIST 2050 or HIST 2700; Minimum grade "C" Required
MATH 1910	4	Must have completed MATH 1720 or 1830 or ACT Score >26
PSYC 2420	3	
Humanities*	3	Must be chosen from the approved list
UNIV 1000**	1	Must be completed during the first semester.
Total hours	18	

*Students must take 3 credit hours from the following list of approved general education Social / Behavior Science courses: AFAS 2010, ANTH 2300, ECON, 2010, GEOG 1010, HPSS 1510, POLI 1010 PSYC 2010, WMST 2000, and URBS 2010.

An Orientation course taken at another University does **NOT meet this requirement. Students with less than 60 credit hours must take UNIV 1000 at TSU.

Spring Schedule		Milestones
Semester 2	Hrs.	Semester 2
CHEM 1120, 1121	4	Pre-Requisite Course: Must be taken before CHEM 2100/2101, CHEM 3210/3211, CHEM 3000; Must have completed CHEM 1110 with Lab
ENGL 1020	3	Pre-Requisite Course: Must be taken before HIST 2010, HIST 2020, HIST 2030, HIST 2050 or HIST 2700; Minimum grade "C" required
Social / Behavior Science*	3	
COMM 2200	3	
Humanities**	3	Must be chosen from the approved list.
Total hours	16	

*Students must take 3 credit hours from the following list of approved general education Social / Behavior Science courses: AFAS 2010, ANTH 2300, ECON, 2010, GEOG 1010, HPSS 1510, POLI 1010 PSYC 2010, WMST 2000, and URBS 2010.

**Students must take 3 credit hours from the following list of approved general education Humanities courses: AREN 2310, ART, 1010, HIST 1000, THTR 1020, MUSC 1010, PHIL 1030, or RELS 2010.

Fall Schedule		Milestones
Semester 3	Hrs.	Semester 3
CHEM 2010, 2011	4	Pre-Requisite Course: Must be taken before CHEM 2020/2021, CHEM 4910; Minimum grade "C" required. Must have completed CHEM 1120
CHEM 2100, 2101	4	Minimum grade "C" required.
ENGL Literature*	3	Minimum grade "C" required.
PHYS 2010, 2011	4	Pre-Requisite Course: Must be taken before PHYS 2020/2021
HIST 2010*	3	
Total hours	18	

*Courses within the range of ENGL 2012 through ENGL 2322 will meet this requirement.

Spring Schedule		Milestones
Semester 4	Hrs.	Semester 4
		Apply for Admission Teacher Education/Pre-Residency Block 1; minimum GPA 2.75; satisfactory report on Criminal Background
		Check for C (or higher) on all classes in Freshman/Sophomore
CHEM 2020, 2021	4	Minimum grade "C" required.
HIST 2020*	3	
Social / Behavior Science**	3	
EDCI 2010	3	
PHYS 2020, 2021	4	
Total hours	17	

*The Department recommends HIST 2020; however, HIST 2030, HIST 2050, HIST 2060 or HIST 2700 satisfy this requirement.

**Students must take 3 credit hours from the following list of approved general education Social / Behavior Science courses: AFAS 2010, ANTH 2300, ECON, 2010, GEOG 1010, HPSS 1510, POLI 1010 PSYC 2010, WMST 2000, and URBS 2010.

Fall Schedule		Milestones
Semester 5	Hrs.	Semester 5
		Take the Praxis II Exam-Chemistry Education (K-12) Content Knowledge
		Prerequisite: Admission to Teacher Education Program /Pre-Residency Block 1
Pre-Residency-Block 1		
CHEM 3210, 3211	4	Minimum grade "C" required.
CHEM 3000	3	Minimum grade "C" required.
BIOL 1110, 1111	4	
EDSE 3330	3	
Total hours	14	

Spring Schedule		Milestones
Semester 6	Hrs.	Semester 6
		Pre-requisite: Admission to Teacher Education/Pre-Residency - Block 2
		Apply for Admission to Residency 1-Block 3
Pre-Residency-Block 2		
CHEM 3410	3	Minimum grade "C" required.
BIOL 1120, 1121	4	
EDCI 3870	3	
ASTR 1010	4	Co-requisite course: Block 2 (EDCI 3870); Minimum Grade of "C" Required
Total hours	14	

Fall Schedule		Milestones
Semester 7		Semester 7
		Take the Praxis II EXAM: Principles of Learning and Teaching (7-12)
		Pre-Requisites: Admission to Residency 1-Block 3; CPR Certification
		Apply for Admission to Residency 2-Block 4
Residency 1-Block 3		
CHEM 3710 or BIOL 3710	3	Co-requisite courses: Block 3 (EDCI 4620; EDCI 4910); Minimum Grade of "C" Required Minimum grade "C" required.
CHEM 4910	1	Minimum grade "C" required.
EDCI 4620	3	
EDCI 4910	3	
BIOL 3010, 3011	4	
Total hours	14	

Spring Schedule		Milestones
Semester 8		Semester 8
		Take Senior Exit Exam and Apply for Graduation
		Pre-Requisites: Successful Completion of Residency 1-Block 3 and ALL Praxis Exams
Residency 2-Block 4		
CHEM 4724	9	Co-Requisite Course: Block 4 (EDCI4705 - 16 weeks/M-F in field); Minimum grade "C" required.
CHEM 4705	3	Minimum grade "C" required.
Total hours	12	

Employment Information: About 25% of students who major in chemistry work as chemists. Chemists develop products that we rely on each day. Without chemists, we wouldn't have clean water and medicines. Some of the fabrics that we wear wouldn't exist without chemists, and believe it or not, neither would many of the foods in our refrigerators. If you want to pursue a career where you can have an impact on the lives of people throughout the world, then a chemistry degree can provide the background that you need to do so. Not all graduates from chemistry programs go on to work as chemists, though. While many do work in a field closely related to chemistry, others choose to take a completely different path. Sales and teaching positions are among the most common career choices for those who pursue a career in an unrelated field. It's very common for chemistry majors to attend graduate school after they complete their undergraduate studies. These graduates make great candidates for medical school, optometry school, dental school, pharmacy school, and veterinary school. Since chemistry majors develop strong research skills, they are also successful in law school, and many go on to work as patent lawyers.

Representative Job Titles Related to this Major:

Chemist, environmental and agricultural; Analyst, Laboratory Assistant/Technician; Sales representative; Crime-lab analyst. With further study: Physician, Veterinarian; Writer, technical/scientific, Biochemist, Pharmacologist, Teacher, Dentist, Industrial Health Engineer, Professor, Consumer Safety Officer.

Representative Employers:

Manufacturing & processing firms, Pharmaceutical manufacturers, Utilities companies, Professional & technical Journals, mining petroleum companies, Chemical Industries, Schools, colleges, and universities, medical laboratories, hospitals, business corporations, Governmental agencies - local, state, federal.

International study is available for all TSU students and may include opportunities for internships or taking course work towards various minors. International study may have an impact on the MAP; therefore, it is important to consult with the academic advisor for this major before participating in an international Program opportunity. Students interested in study abroad opportunities should contact the Office of International Programs and consult with their academic advisor.

This map is not intended to be a contract; either expressed or implied, between the University and the students, but represents a flexible program of the current curriculum which may be altered from time to time to carry out the academic objectives of the University. TSU specifically reserves the right to change, delete or add to any MAP at any time within the student's period of study at the University.
