

CHEMISTRY — CHEMISTRY CONCENTRATION ACADEMIC MAP: DEGREE BS (120 CREDIT HOURS)

This degree map is a semester-by-semester sample course schedule for students majoring in **Chemistry with a concentration in Chemistry**. 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 general guideline to help build 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.

The program of study in Chemistry is designed to train students for career objectives as laboratory technicians, research technicians, or positions in chemical sales, process control, chemical editing---writing and patent law. The minor in this concentration is selected by the student according to his or her career goals and is monitored carefully by an advisor. Students in this discipline must be admitted into the upper-division program of the Chemistry major. For admission into the Upper Division, students must have removed all high school deficiencies and completed all requirements in the General Education Core (1000 and 2000 level courses). No grades less than a “C” in any Chemistry course will be accepted as credit toward meeting Departmental requirements and towards graduation. Thus, a 2.0 Grade Point Average is required to graduate with this degree.

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: Advanced Placement Program, American Council of Education (ACE) Military Credit, College Level Exam Program (CLEP), DSST Credit by Examination Program (includes DANTE 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 at (615) 963-7001 or adultstudentsupport@tnstate.edu.

Department Chair: Dr. Mohammad Karim, Email: mkarim@tnstate.edu
Mapping Coordinator: Dr. Joshua Moore, Email: jmoore17@tnstate.edu
Department Web Address: www.tnstate.edu/chemistry

Fall Schedule		Milestones
Semester 1	Hrs.	Semester 1
CHEM 1110/1111 or 1112/1113	4	Pre-requisite Course: Must be taken before CHEM 1120/1121; Minimum Grade of “C” Required.
ENGL 1010	3	Pre-Requisite Course: Must be taken before ENGL 1020, and HIST 2010, HIST 2020, HIST 2030, HIST 2060, HIST 2070, or HIST 2700; Minimum Grade of “C” Required
MATH 1910	4	Pre-requisite Course: Must be taken before CHEM 3210/3211
HUMANITIES*	3	
UNIV 1000**	1	
Total Hours	15	

*Students must take 6 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.

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

Spring Schedule		Milestones
Semester 2	Hrs.	Semester 2
CHEM 1120/1121 or 1122/1123	4	Pre-Requisite Course: Must be taken before CHEM 2010/2011, CHEM 2100/2101, CHEM 3000; Minimum grade of "C" Required.
ENGL 1020	3	Pre-Requisite Course: Must be taken before taking HIST 2010, HIST 2020, HIST 2030, HIST 2060, HIST 2070, or HIST 2700; Minimum Grade of "C" Required
COMM 2200	3	
SOCIAL BEHAVIORAL ELECTIVE*	3	
HUMANITIES**	3	
Total Hours	16	

*The following courses can meet the Social Science elective AFAS 2010, ANTH 2300, ECON, 2010, GEOG 1010, HPSS 1510, POLI 1010 PSYC 2010, WMST 2000, and URBS 2010.

Students must take 6 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. Students must remember **NOT to duplicate course option from previous semester.

Fall Schedule		Milestones
Semester 3	Hrs.	Semester 3
CHEM 2010/2011 or 2012/2013	4	Pre-Requisite Course: Must be taken before CHEM 2020/2021, CHEM 4100, CHEM 4910; Minimum Grade of "C" Required.
CHEM 2100/ 2101	4	Pre-Requisite Course: Must be taken before CHEM 3210/3211, CHEM 4100; Minimum Grade of "C" Required.
ENGL LIT*	3	Minimum Grade of "C" Required.
BIOL 1110/1111	4	
Total Hours	15	

*Courses within the range of ENGL 1012-2320 will meet this requirement.

Spring Schedule		Milestones
Semester 4	Hrs.	Semester 4
		Students must Application to the Upper Division Courses
CHEM 2020/2021 or 2022/2023	4	Pre-Requisite Course: Must be taken before CHEM 3210/3211 and CHEM 4100; Minimum grade of "C" Required.
SOCIAL BEHAVIORAL ELECTIVE*	3	
HIST 2010**	3	
BIOL 1120/1121	4	
ELECTIVE ANY LEVEL***	1	
Total Hours	15	

*The following courses can meet the Social Science elective AFAS 2010, ANTH 2300, ECON, 2010, GEOG 1010, HPSS 1510, POLI 1010, PSYC 2010, WMST 2000, and URBS 2010.

**The Department recommends HIST 2010; however, HIST 2020, HIST 2030, HIST 2060, HIST 2070 or HIST 2700 satisfy this requirement.

***This elective must be minimum of credit hour; in addition, the Department recommends 1000 or 2000 level course be selected for this semester.

Fall Schedule		Milestones
Semester 5	Hrs.	Semester 5
		Students must have completed 63 hours and should be admitted into Upper Division with Chemistry Major.
CHEM 3210/3211	4	Pre-Requisite Course: Must be taken before CHEM 3220; Minimum Grade of "C" Required.
PHYS 2010/2011	4	Pre-Requisite Course: Must be taken before PHYS 2020/2021; Minimum Grade of "C" Required.
UPPER DIVISION ELECTIVE*	6	
HIST 2020**	3	
Total Hours	17	

*Students may take a course from ANY academic department on the 3000-4000 level, preferably Chemistry courses should be selected.

**The Department recommends HIST 2020; however, HIST 2030, HIST 2060, HIST 2070 or HIST 2700 satisfy this requirement. Students must remember not to duplicate course option from previous semester.

Spring Schedule		Milestones
Semester 6	Hrs.	Semester 6
CHEM 3220/3221	4	Pre-Requisite Course: Must be taken before CHEM 4910, and CHEM 4920; Minimum grade of "C" Required.
CHEM 4100	2	Minimum Grade of "C" Required.
PHYS 2020/2021	4	
UPPER DIVISION ELECTIVE*	3	
UPPER DIVISION ELECTIVE*	3	
Total Hours	16	

*Students may take course from ANY academic department on the 3000-4000 level, preferably Chemistry courses should be selected.

Fall Schedule		Milestones
Semester 7	Hrs.	Semester 7
CHEM 3000	3	Minimum Grade of "C" Required.
CHEM 4910	1	Minimum Grade of "C" Required.
UPPER DIVISION ELECTIVE	3	
UPPER DIVISION ELECTIVE	3	
UPPER DIVISION ELECTIVE	3	
UPPER DIVISION ELECTIVE*	3	
Total Hours	13	

*Students may take course from ANY academic department on the 3000-4000 level, preferably Chemistry courses should be selected.

Spring Schedule		Milestones
Semester 8	Hrs.	Semester 8
		Take Senior Exit Exam and Apply for Graduation
CHEM 4920	1	Minimum Grade of "C" Required.
UPPER DIVISION ELECTIVE	3	
UPPER DIVISION ELECTIVE	3	
UPPER DIVISION ELECTIVE	3	
UPPER DIVISION ELECTIVE	3	
Total Hours	13	

*Students may take course from ANY academic department on the 3000-4000 level, preferably Chemistry courses should be selected.

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, quality control chemist, laboratory technician, technical sales representative, chemical and drug sales representative, consumer protection specialist, water quality analyst/technician, technical writer, aerosol development manager, quality assurance chemist, methods development chemist, process development chemist, organic mass spectrometrist, forensic lab analyst, pulp and paper chemist, paint formulation chemist, paper product developer, chemical information specialist, occupational health and safety officer, medical laboratory technician, analytic chemist, associate chemist, chemical safety officer, clinical technician, food and drug analyst, pollution controller, information analyst, soil tester, laboratory analyst, chemical technologist, assayer, product tester, production chemist, lab coordinator, chemical analyst, pest control technician, textile chemist, occupational hygienist, geologist, color development specialist, environmental engineer, geochemist, industrial hygienist, teacher, crime lab analyst, medical technologist.

Representative Employers:

Educational institutions, science museums, quality control laboratories, pharmaceutical/biotech., mineral and metal industries, hospital research laboratories, industrial laboratories, food and beverage companies, health protection branches, waterworks departments, hazardous waste management, chemical testing companies, research centers/institutes, cosmetic companies, utility companies, chemical distributors, hospitals, newspapers/magazines, oil companies, chemistry consulting firms, environmental consulting, pulp and paper industries, chemical laboratories, agricultural companies, professional chemical societies, textile manufacturers, police laboratories, chemical manufacturing, petroleum refineries, government, aerospace companies, technical librarian.

International study is available for all TS students and may include opportunities for internships or taking course work towards various minors. International study may have an impact on the academic 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.