What can I do with a degree in... CHEMISTRY?

What is **CHEMISTRY?**

Chemistry is often called the 'central science' that connects physics, biology, engineering, and medicine. A chemistry degree will help you gain a better understanding of our world at the molecular level and how we can develop new materials that improve and advance our society.

A chemistry degree from WCU prepares students for immediate employment or further graduate study. Approximately half of our graduates seek employment in environmental chemistry, biotechnology, or with government agencies. Most of the other half enroll in graduate studies in chemistry, medical school, or pharmacy school.

Whether working in the lab, classroom or corner office, graduates are able to demonstrate to employers and mentors their knowledge, research abilities and familiarity with instrumentation. Within the chemistry program you can choose a standard, comprehensive degree or one with a concentration that matches your goals and interests.

What are the **DEGREE OPTIONS?**

Bachelor of Science (B.S.) in Chemistry: 2025-2026 Catalog Link

Bachelor of Science (B.S.) in Chemistry (ACS-Certified Concentration with ABM Option): 2025-2026 Catalog Link

A **Minor in Chemistry** is also available: **2025-2026 Catalog Link**

What are the **CONCENTRATIONS?**

There are three undergraduate degree options available to students within the chemistry major: **American Chemical Society Concentration, General, or Premedical/ Biomedical Science and Technology.** Your chemistry advisor can help you in deciding which concentration most closely matches your career goals.

NOTE: Students who want to teach Chemistry or Physics at the high school level may pursue a Bachelor of Science in Education (B.S. Ed.) in Secondary Sciences and choose either the Chemistry or Physics options. The Chemistry and Physics program is also offered as a minor.

What is the **ADMISSION PROCESS?**

Students declare a Chemistry major with the Advising Center, located in Killian Annex. Please make an appointment with your advisor via your MyWCU student portal.

What **JOBS ARE AVAILABLE?**

Depending on the concentration and other qualifications, our graduates are prepared to become a variety of professionals including agricultural technicians, agronomists, anesthesiologists, biochemists, biophysicists, chemical engineers, chemical technicians, educators, environmental chemists, geologists, food science technicians, product developers, geneticists, medical professionals, pharmacists, toxicologists, researchers, and more. **NOTE:** Many of these professions require advanced master's or doctoral degrees.

Who employs **CHEMISTRY** graduates?

Our gradutes often work with hospitals and other health organizations, non-profit organizations, government agencies, public and private sector businesses, research companies, forensic and criminal justice agencies, and food industry companies.

MAJOR MAP

How to use this map: Review the four categories and suggestions of activities and when you should consider engaging in them. Remember, these are just suggestions! There is a fillable space for you to add in any other ideas you have to set yourself up for success in life after college.

	1st YEAR	2nd YEAR
EXCEL IN ACADEMICS	Many students seeking to major in Chemistry major will focus on the liberal studies requirements as well as introductory Chemistry courses. **Check out the 8-semester plan for your concentration** and make an appointment with your advisor.	Students in their second year will likely continue with liberal studies electives as well as continuing with Chemistry courses. **Check out the 8-semester plan for your concentration** and make an appointment with your advisor.
GET HANDS-ON EXPERIENCE	Check out **WCU's DegreePlus program** and choose which events in any of the four categories you want to attend. Categories include: Professionalism, Teamwork, Leadership, or Cultural Responsiveness. See what on-campus employment opportunities are available by logging in to JobCat via your MyWCU.	Get involved with the Chemistry Club If you are thinking about attending a graduate or medical school, start engaging in hands-on research required for graduate school admissions. Engage deeper with **DegreePlus;** choose an additional competency to complete
BE PART OF THE COMMUNITY	Connect with the **Center for Community Engagement and Service Learning** and ask about the **Spark Award,** a program aimed to encourage students to be connected with their community.	Job shadow with professionals in research in the career area you wish to pursue. Volunteer with area non-profits or organizations which interest you. Consider the **study abroad programs related to chemistry.** Talk with a study abroad advisor about targeted experience for your concentration.
PREPARE FOR LIFE AFTER COLLEGE	Further explore your career options or career interests using the **Center for Career and Professional Development's** online resources, **Focus 2,** and **O*Net Online.** Connect with a career counselor early on to explore opportunities and experiences you can do while in college to further develop your professional resume.	Check out **CCPD's list of career-building activities** and participate in an activity this year, such as attending Career Fair Plus. Start a spreadsheet of medical/ graduate schools you wish to apply to in a few years with their admission requirements so that you are aware of the expectations.

Looking for a minor? Consider these options:

Anthropology
Biology
Math
Communication
Criminal Justice
Physics
Psychology
Sociology

3rd YEAR	4th YEAR
Third level courses focus on upper-level Chemistry and special topics relating to the concentration and/or minor. **Check out the 8-semester plan for your concentration** and make an appointment with your advisor.	Courses in your final year will complete the chemistry and concentration courses, as well as your chosen general electives. Be sure to **check out the 8-semester plan for your concentration**, make an appointment with your advisor, complete your degree audit, and **apply for graduation!**
Consider research experiences that will give you practical and hands-on opportunities to put on a resume. Opportunities in research at WCU include areas such as biotechnology, materials and environmental applicaitons, as well as traditional subdisciplines of chemistry. Consider networking with professionals in your field at national or regional professional conferences such as the American Chemical Society or the American Association of Clinical Chemistry annual conferences.	Investigate requirements for full-time jobs. Assess what skills or experiences you're lacking and invest time in seeking additional opportunities such as certification programs, classes, or professional development workshops during your last year to fill that gap. Connect with your faculty advisor or career counselor.
Develop deeper relationships with the organizations for which you volunteer. Ask for special projects or responsibilities that you can highlight on a resume. Connect with alumni in your field through **LinkedIn**	Join professional organizations such as the **American Chemical Society** or **American Chemistry Council.** Network with employers and non-profits at the annual Career Fair Plus event, held each Sept. or Oct. (Fall) and Feb. or March (Spring).
Visit the CCPD to hone your professional resume and cover letter. Apply for internships. Utilize the **Writing and Learning Commons** for MCAT, GRE, and other professional exam preparation sessions.Use **Big Interview** to learn more about professional interviews. Schedule a visit to tour medical/ graduate schools of your choice, if applicable.	Apply to medical/ graduate schools, if applicable. Look for and **apply for jobs** between 4 and 6 months before graduation. Polish your resume, cover letter, and interview skills by vising the **CCPD.**

DID YOU KNOW? Internships are still the number-one educational experience employers look for in a recent college graduate resume. (Chronicle of Higher Education's study on 50,000 employers)

MORE INFORMATION

INTERNSHIP/RESEARCH Information

At Western Carolina University, there are numerous internship and research opportunities for students. Learn more about research opportunities in Chemistry here. Talk with your chemistry faculty members about current opportunities in their labs. In some cases internships are established through a faculty member in the student's major. Oftentimes students find part-time jobs in an area related to their field of study. When this happens, students should discuss with their academic advisor the possibility of receiving college credit. Generally, three hours of general elective credit can be earned for a minimum of 200 hours of experience.

SKILLS LEARNED in the classroom

The core competencies will center on developing skills, knowledge, and attitudes such as:

- independent thinking
- critical thinking
- problem solving
- written and oral communication
- professional teamwork
- analytical reasoning
- curiosity and creativity
- statistical analysis
- research skills
- analytical and quantitative abilities
- technical skills

KNOWLEDGE Base

This program will prepare students to:

- learn, understand and interpret information and apply knowledge to new situations
- achieve an acceptable level of precision and accuracy in their laboratory work
- demonstrate competence in laboratory techniques
- set priorities, meet deadlines and effectively plan/manage time, data and resources
- demonstrate complex problem-solving skills in the area of chemical measurement, chemical synthesis, and chemical theory
- Problem-solve and make well-reasoned decisions, think creatively and search for, identify and consider all sides of an issue
- analyze and interpret a wide range of information and data to discuss, support and/or reject ideas, opinions, reports, theories and proposals

Professional **RESOURCES**

- American Association for Clinical Chemistry: www.aacc.org
- American Chemical Society: www.acs.org/content/acs/en.html
- American Chemistry Council: www.americanchemistry.com
- InChemistry: inchemistry.acs.org/content/inchemistry/en.html

QUESTIONS?

For questions, please call the Chemistry program at 828-227-7260 or visit chemistry.wcu.edu.

To schedule an appointment with a career counselor, contact the Center for Career and Professional Development, 828-227-7133 or careerservices@wcu.edu.

Western Carolina University