DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY
UNIVERSITY OF ARIZONA, COLLEGE OF SCIENCE

B.A. IN CHEMISTRY
CATALOG: FALL 2024 to Present

Name: SID:

General Information: The Bachelor of Arts in Chemistry is designed to expose students to the field of Chemistry. While not required, pairing the BA Chemistry with another STEM major and/or minor is highly recommended to meet the university's degree requirements. Please ask a CBC advisor if you would like suggestions for double majoring.

GENERAL EDUCATION REQUIREMENTS

English Composition

ENGL 101 or 107	3
ENGL 102 or 108	3
Or	
ENGL 109H	3

Second Language

4th Semester Proficiency or higher	4-5

Introduction to General Education

UNIV 101	1

Exploring Perspectives

Artist	3
Humanist	3
Natural Scientist *(fulfilled by CHEM 181 or PHYS 141)*	
Social Scientist	3

Building Connections

Course 1	3
Course 2	3
Course 3	3

General Education Portfolio

UNIV 301	1

FOUNDATIONAL MATH & SCIENCE

Chemistry Major's Colloquia

CHEM 195A (F) – *CBC First-Year Colloquium*	1
CHEM 295A (F) – *CHEM Colloquium 2*	1
CHEM 395A (S) – *CHEM Colloquium 3*	1

Mathematics

MATH 122A & B or MATH 125 – *Calculus*	3-5
MATH 129 – *Calculus 2*	1

Physics *(choose 1)*

PHYS 141 – *Intro Mechanics*	4
PHYS 102 and PHYS 181 – *Intro Physics*	4

CHEMISTRY MAJOR REQUIREMENTS *(C or higher required)*

General Chemistry

CHEM 181 (F) – *Major's General Chemistry 1*	4
CHEM 182 (S) – *Major's General Chemistry 2*	4

Foundational Coursework

CHEM 246 – *Principles of Organic Chemistry*	3
CHEM 227 – *Principles of Analytical Chemistry*	3
CHEM 310 – *Principles of Inorganic Chemistry*	3
CHEM 385 – *Principles of Physical Chemistry*	3

Foundational Laboratory Coursework

CHEM 256L – *Synthesis Laboratory*	2
CHEM 330L – *Measurements Laboratory*	2

In-depth Coursework *(Choose one)*

BIOC 384 or BIOC 462A (F) – *Biochemistry I*	3-4
BIOC 385 or BIOC 462B (S) – *Biochemistry II*	3-4
BIOC 463A (F, S) – *Biochemical Lab Techniques*	4
CHEM 346 – *Advanced Organic Chemistry*	3
CHEM 356L – *Advanced Organic Synthesis Lab*	3
CHEM 380 (F) – *Mathematical Physics for Chemistry*	3
CHEM 401A (S) – *Instrumental Analysis*	3
CHEM 485 – *Advanced Physical Chemistry*	3
CHEM 400A (F) – *Chemical Measurements Laboratory*	3
CHEM 423A – *Bioanalytical Chemistry*	3
CHEM 400B (S) – *Chemical Measurements Laboratory*	3
CHEM 412 (F) – *Inorganic Preparations*	3
CHEM 418 – *Computational Chemistry*	3
CHEM 450 – *Synthetic & Mechanistic Organic Chem*	3
CHEM 487 – *Intro. to Molecular Spectroscopy*	3

Advanced Electives *(minimum 6 units)*

Please see page 2 for the complete list

GRADUATION REQUIREMENTS

120 Total Units	*42 Upper Division Units*
Cumulative GPA: 2.0+	Major GPA: 2.0+
30 Units @ UA	18 UD Units @ UA

Mid-Career Writing Assessment (MCWA)

Chemistry Electives List *(6 units minimum)*

ASTR 488A – *Astrochemistry*	3
BIOC 448A – *Plant Biochemistry & Metabolic Engineering*	3
BME 420 – *Biophotonics*	3
BME 447 – *Sensors & Controls*	3
BME 485 – *Nanoscience & Nanotech for Biomed Engineers*	3
CHEE 432 – *Organic Electronic Materials & Devices*	3
CHEE 437 – *Surface Science*	3
CHEM 405A/405B/405C – *Laboratory Safety Series*	1-3
CHEM 410/510 – *Advanced Inorganic Chemistry*	3
CHEM 422/522 – *Electroanalytical Chemistry*	3
CHEM 426B – *Analytical Molecular Spectroscopy*	3
CHEM 427 – *Separations*	3
CHEM 442B – *Polymer Chemistry*	3
CHEM 449A – *Topics in Chemical Biology*	3
ENVS 410 – *Microbial Biogeochemistry & Global Change*	3
ENVS 425 – *Environmental Microbiology*	3
ENVS 340 – *Environmental Chemistry*	3
CHEM 496D – *Chemistry Discover*	1
CHEM 498(H) – *Senior Capstone/Thesis*	3

ENVS 462 – *Environmental Soil & Water Chemistry*	3
ENVS 464 – *Environmental Organic Chemistry*	3
GEOS 400 – *Introduction to Geochemistry*	3
IMB 401 – *Medical Microbiology & Immunobiology*	3
IMB 406 – *Human Immunobiology*	3
MSE 460 – *Materials Science of Polymers*	3
PCOL 410 – *Medicinal Chemistry*	5
PCOL 350 – *ADME: How the Body Changes Drugs*	3
PHYS 426 – *Thermal Physics*	3
PHYS 431 – *Molecular Biophysics*	3
PHYS 484 – *Nuclear Magnetic Resonance Spectroscopy*	3
PTYS 407 – *Chemistry of the Solar System*	3
PTYS 416 – *Asteroids, Comets, & Kuiper Belt Objects*	3
CHEM 392/492(H) – *Directed Research*	1-3
CHEM 399/499(H) – *Independent Study*	1-3
CHEM 391/491(H) – *Preceptorship*	1-3
CHEM 493 – *Internship*	1-5

Course offerings per semester are subject to change. Please check the Schedule of Classes for most updated course information. Students are responsible for completing any prerequisites or contacting the offering department if permission is required to take the above courses.

Recommended Academic Plan

1st Semester	
CHEM 195A	1
CHEM 181	4
MATH 122A & B	5
UNIV 101	1
ENGL 101	3
Total units	14

2nd Semester	
CHEM 182	4
MATH 129	3
ENGL 102	3
Gen ed EP or BC	3
Gen ed EP or BC	3
Total units	16

3rd Semester	
CHEM 246	3
CHEM 227	3
PHYS 141	4
CHEM 295A	1
Second Language	4-5
Total units	15

4th Semester	
CHEM 256L	2
CHEM 310	3
Second language	4-5
Gen ed EP or BC	3
Gen ed EP or BC	3
Total units	15

5th Semester	
CHEM 385	3
CHEM 330L	2
Second Language	4-5
Units to full time	3
Total units	12

6th Semester	
CHEM 395A	1
In-depth CHEM course	3
Gen ed EP or BC	3
Second Language	4-5
Units to full time	1
Total units	12

7th Semester	
Advanced elective	3
Gen ed EP or BC	3
Units to full time	6
Total units	12

8th Semester	
Advanced elective	3
Gen ed EP or BC	3
UNIV 301	1
Units to full time	5
Total units	12