Chemistry Major Requirements
Catalog Year: 2013-14
Degree: Bachelor of Arts
Credit Hours: 40+

“PR” indicates a pre-requisite. “CO” indicates a co-requisite.

Courses within this major may also satisfy general education requirements. Please consult http://registrar.cofc.edu/general-edu for more information.

Required Courses

☐ CHEM 111 Principles of Chemistry (3) PR: MATH 111 or equivalent; CO: CHEM 111L
☐ CHEM 111L Principles of Chemistry Lab (1) CO: CHEM 111

☐ CHEM 112 Principles of Chemistry (3) PR: CHEM 111, CHEM 111L or HONS 153, HONS 153L; CO: CHEM 112L
☐ CHEM 112L Principles of Chemistry Lab (1) CO: CHEM 112

☐ CHEM 221 Quantitative Analysis (4) PR: CHEM 112, CHEM 112L or HONS 154, HONS 154L; CO: CHEM 221L
☐ CHEM 221L Quantitative Analysis Laboratory (0) CO: CHEM 221

☐ CHEM 231 Organic Chemistry (3) PR: CHEM 112, CHEM 112L or HONS 154, HONS 154L; CO: CHEM 231L
☐ CHEM 231L Introduction to Organic Chemistry Laboratory Techniques (1) CO: CHEM 231

☐ CHEM 232 Organic Chemistry (3) PR: CHEM 231, CHEM 231L; CO: CHEM 232L
☐ CHEM 232L Organic Synthesis and Analysis (1) CO: CHEM 232

☐ CHEM 341 Physical Chemistry (3) PR: CHEM 221 and MATH 220; CO: CHEM 341L (MATH 221 is strongly recommended.)
☐ CHEM 341L Physical Chemistry Laboratory (1) CO: CHEM 341

☐ CHEM 342 Physical Chemistry (3) PR: CHEM 341, CHEM 341L; CO: CHEM 342L
☐ CHEM 342L Physical Chemistry Laboratory (1) CO: CHEM 342

☐ CHEM 492 Senior Seminar (1) PR: CHEM 341 and senior standing

Additional Chemistry Elective: Select 3 credit hours from any 300-level or above CHEM course excluding CHEM 583.

☐ ____________

CHEM 343 Introduction to Modeling in Chemistry (1) PR: CHEM 231, CHEM 231L
CHEM 351 Biochemistry (3) PR: CHEM 232, CHEM 232L
CHEM 352 Biochemistry (3) PR: CHEM 351
CHEM 354 Biochemistry Laboratory (1) PR: CHEM 351
CHEM 371 Chemical Synthesis Character (3) PR: CHEM 221, CHEM 221L, CHEM 232, CHEM 232L
CHEM 381* Internship (1, repeatable up to 4) PR: Junior or senior standing and at least a 2.50 GPA both overall and in major
CHEM 399* Tutorial (3; repeatable up to 12) PR: Junior or senior standing and at least a 2.50 GPA both overall and in major
CHEM 481 Introductory Research (2) PR: Instructor permission
CHEM 482 Introductory Research II (2) PR: Instructor permission
CHEM 490 Chemistry and Biochemistry Seminar (1) PR: Junior or senior standing
CHEM 511 Advanced Inorganic Chemistry (3) PR or CO: CHEM 341, CHEM 341L and CHEM 342, CHEM 342L
CHEM 512L Advanced Inorganic Chemistry Laboratory (1) PR or CO: CHEM 511
CHEM 521 Instrumental Analysis (4) PR: CHEM 221, CHEM 221L; CO: CHEM 521L
CHEM 521L Instrumental Analysis (0)
CHEM 522 Environmental Chemistry (3) PR: CHEM 221; CO: CHEM 522L
CHEM 522L Environmental Chemistry Laboratory (1) CO: CHEM 522
CHEM 526 Introduction to Nuclear and Radiochemistry (1) PR: CHEM 221, CHEM 221L OR CHEM 231, CHEM 231L
CHEM 528 Nuclear and Radiochemistry (3) PR: CHEM 221 or CHEM 231
CHEM 531 Advanced Organic Chemistry (3) PR: CHEM 232, CHEM 232L

Notes: *CHEM 381 is repeatable up to 4 credit hours earned. *CHEM 399 is repeatable up to 12 credit hours earned.

Math Requirement

☐ MATH 120 Introductory Calculus (4) PR: Placement or C or better in MATH 111
☐ MATH 220 Calculus II (4) PR: MATH 120 or HONS 115

Notes:

- MATH 221 Calculus III is strongly recommended.
- Honors students can take the alternative sequence of HONS 191/HONS 191L, HONS 192/HONS 192L, HONS 293/HONS 293L, and HONS 294/HONS 294L in lieu of CHEM 111/111L, CHEM 112/112L, CHEM 231/231L, and CHEM 232/232L. Please note in this case CHEM 221 cannot be taken until CHEM 294/294L is complete.
- All junior and senior chemistry majors are strongly encouraged to attend the scheduled departmental seminars.
- Students who have completed PHYS 101 Introductory Physics I and PHYS 102 Introductory Physics II before declaring a chemistry or biochemistry major may satisfy this requirement by taking additional related courses. Please see the department chair for the list of courses.