



# Department of Chemistry and Biochemistry

## Learning Abroad Matrix: Chemistry Program

Thank you for your interest in participating in a learning abroad experience. The Department of Chemistry and Biochemistry has developed a matrix for your major, tailored for study abroad at the **American University of Rome**. If you have questions about study abroad, please work with your academic advisor and the Learning Abroad Office (studyabroad@gannon.edu).

### FRESHMAN

#### Fall (14 credits)

- 3 Foundational English
- 3 CHEM 111: General Chemistry 1
- 1 CHEM 112: General Chemistry 1 Lab
- 3 MATH 140: Calculus 2
- 4 Technical Electives
- 0 Gannon 101

#### Spring (17 credits)

- 3 Foundational Philosophy
- 3 Foundational Theology
- 3 CHEM 114: General Chemistry 2
- 1 CHEM 115: General Chemistry 2 Lab
- 3 MATH 141: Calculus 2
- 4 Technical Electives

### SOPHOMORE

#### Fall (17 credits)

- 3 CHEM 221: Organic Chemistry 1
- 1 CHEM 222: Organic Chemistry 1 Lab
- 3 PHYS 210: Fundamentals of Physics 1
- 1 PHYS 211: Fundamentals of Physics 1 lab
- 3 Integrative English
- 6 Technical Electives

#### Spring (17 credits)

- 3 CHEM 224: Organic Chemistry 2
- 1 CHEM 225: Organic Chemistry 2 Lab
- 3 PHYS 212: Fundamentals of Physics 2
- 1 PHYS 213: Fundamentals of Physics 2 lab
- 3 Integrative Philosophy
- 6 Technical Electives

### JUNIOR

#### Fall (13 credits)

- 3 CHEM 331: Physical Chemistry 1
- 1 CHEM 332: Physical Chemistry 1 Lab
- 3 CHEM 325: Organic Spectroscopic Methods
- 1 CHEM 326: Organic Spectroscopic Methods lab
- 3 CHEM 361: Adv Inorganic Chemistry
- 2 Chemistry Electives (rec: CHEM 414: Computational)

#### Spring (14 credits)

- 3 CHEM 334: Physical Chemistry 2
- 1 CHEM 335: Physical Chemistry 2 Lab
- 3 CHEM 336: Intro to Modern Analytical Chemistry
- 2 CHEM 337: Intro to Modern Analytical Chemistry Lab
- 1 CHEM 356: Chemical Literature
- 1 CHEM 380–381: Undergraduate Research in Chemistry
- 3 Professional Ethics and Leadership

### SENIOR

#### Fall (15 credits)

- 3 Aesthetic Reasoning
- 3 Integrative History
- 3 Integrative Theology
- 3 Integrative Communication
- 3 Global Citizenship

**\*\*American University of Rome\*\***

#### Spring (13 credits)

- 3 Chemistry Electives (rec: CHEM 360: Polymer)
- 3 Chemistry Electives (rec: CHEM 366: Biochemistry)
- 3 Chemistry Electives (rec: CHEM 408: Instrumental)
- 1 CHEM 380–381: Undergraduate Research in Chemistry
- 3 Professional Communication

**TOTAL = 120 CREDITS**



# Department of Chemistry and Biochemistry

## Learning Abroad Matrix: Biochemistry Program

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### FRESHMAN

#### Fall (14 credits)

- 3 Foundational English
- 3 CHEM 111: General Chemistry 1
- 1 CHEM 112: General Chemistry 1 Lab
- 3 MATH 140: Calculus I
- 3 BIOL 122: Molecular & Cellular Biology
- 1 BIOL 123: Molecular & Cellular Biology Lab
- 0 Gannon 101

#### Spring (17 credits)

- 3 Foundational Philosophy
- 3 Foundational Theology
- 3 CHEM 114: General Chemistry 2
- 1 CHEM 115: General Chemistry 2 Lab
- 3 MATH 141: Calculus 2
- 3 BIOL 124: Animal Form and Function
- 1 BIOL 125: Animal Form and Function Lab

### SOPHOMORE

#### Fall (14 credits)

- 3 CHEM 221: Organic Chemistry 1
- 1 CHEM 222: Organic Chemistry 1 Lab
- 3 PHYS 210: Fundamentals of Physics 1
- 1 PHYS 211: Fundamentals of Physics 1 lab
- 3 Integrative Philosophy
- 3 MATH 213: Applied Statistics

#### Spring (15 credits)

- 3 CHEM 224: Organic Chemistry 2
- 1 CHEM 225: Organic Chemistry 2 Lab
- 3 PHYS 212: Fundamentals of Physics 2
- 1 PHYS 213: Fundamentals of Physics 2 lab
- 3 Integrative English
- 3 BIOL 265: Genetics
- 1 BIOL 266: Genetics Lab

### JUNIOR

#### Fall (15 credits)

- 3 Aesthetic Reasoning
- 3 Integrative History
- 3 Integrative Theology
- 3 Integrative Communication
- 3 Global Citizenship
- \*\*American University of Rome\*\***

#### Spring (14 credits)

- 4 Cell Biology w/Lab or Molecular Biology w/Lab
- 3 CHEM 336: Intro to Modern Analytical Chemistry
- 2 CHEM 337: Intro to Modern Analytical Chemistry Lab
- 1 CHEM 356: Chemical Literature
- 1 CHEM 380–381: Undergraduate Research in Chemistry
- 3 CHEM366: Structural Biochemistry

### SENIOR

#### Fall (17 credits)

- 3 CHEM 331: Physical Chemistry 1
- 1 CHEM 332: Physical Chemistry 1 Lab
- 3 CHEM 325: Organic Spectroscopic Methods
- 1 CHEM 326: Organic Spectroscopic Methods lab
- 3 CHEM 361: Adv Inorganic Chemistry
- 3 CHEM368: Biochemical Pathways
- 1 CHEM367: Biochemistry Lab
- 2 CHEM414: Computational Chemistry

#### Spring (14 credits)

- 4 Cell Biology w/Lab or Molecular Biology w/Lab
- 3 Chemistry or Biology electives
- 1 CHEM 380–381: Undergraduate Research in Chemistry
- 3 Professional Ethics and Leadership
- 3 Professional Communication
- \*\*American University of Rome\*\***

**TOTAL = 120 CREDITS**