



# ASSOCIATE OF SCIENCE

## CHEMISTRY

The catalog in force is assigned to students based on the academic year they first applied to the college, and changes only when students change their major or request the change in writing. Refer to Policy No. 3357:15-13-28.

2022-23 Catalog  
Effective Summer 2022

1260

Arts and Sciences Division

Chemistry Department

| Course Number  | Course Title   | Credits | Pre- and Co-Requisites                                       | Completed Sem./Year |
|--|--|---------|--|---------------------|
| <b>FRESHMAN EXPERIENCE</b>   |  |         |  |                     |
| SSC101   | Student Success Seminar^^  | 1       | Take first semester  |                     |
| <b>CONCENTRATION CORE: 20 credit hours</b>                                   |  |         |  |                     |
| CHM141   | General Chemistry I (lab)  | 5       | (CHM101 or Proficiency) or (MTH024 or MTH025 or Proficiency) |                     |
| CHM142   | General Chemistry II (lab)▲+   | 5       | CHM141   |                     |
| CHM241   | Organic Chemistry I (lab)▲-  | 5       | CHM142   |                     |
| CHM242   | Organic Chemistry II (lab)▲+   | 5       | CHM241   |                     |
| <b>NATURAL SCIENCES: 4 credit hour minimum</b>                               |  |         |  |                     |
| CHM205   | Forensic Chemistry (lab)<br>(recommended for Forensic Science)   | 4       | CHM123 or CHM141 or CHM105                                   |                     |
| PHY121   | College Physics I with Algebra (lab)^<br>(recommended for BA)  | 4       | MTH135 or (MTH125 and MTH130) or Proficiency                 |                     |
| PHY221   | General Physics I with Calculus (lab)▲-<br>(recommended for BS)  | 5       | Pre-MTH223 and Co-MTH224                                     |                     |
| BIO141   | General Biology I (lab)**  | 4       |  |                     |
| <b>MATHEMATICS, STATISTICS AND LOGIC: 8 credit hours minimum</b>             |  |         |  |                     |
| MTH135   | Precalculus^ – A student may take MTH125 (College Algebra) and MTH130 (Trigonometry) over two semesters to satisfy this requirement. | 5       | MTH025 or Proficiency  |                     |
| MTH223   | Analytic Geometry and Calculus I^  | 4       | MTH135   |                     |
| MTH224   | Analytic Geometry and Calculus II  | 4       | MTH223   |                     |
| MTH225   | Analytic Geometry and Calculus III*  | 4       | MTH224   |                     |
| <b>ENGLISH COMPOSITION AND ORAL COMMUNICATION: 3 credit hours</b>            |  |         |  |                     |
| ENG124   | College Composition^ (required)  | 3       | Co-ENG024 or Co-ENG011 or Proficiency                        |                     |
| <b>SOCIAL AND BEHAVIORAL SCIENCES: 6 credit hours across two disciplines</b> |  |         |  |                     |
| BUS122   | Basic Economics^   | 3       | IDS102 or Proficiency  |                     |
| BUS221   | Microeconomics^  | 3       | IDS102 or Proficiency  |                     |
| BUS222   | Macroeconomics^  | 3       | IDS102 or Proficiency  |                     |
| PSC121   | U.S. Government and Politics   | 3       |  |                     |
| PSY121   | General Psychology^  | 3       | IDS102 or Proficiency  |                     |
| PSY124   | Industrial/Organizational Psychology   | 3       |  |                     |
| PSY220   | Social Psychology  | 3       |  |                     |
| SOC225   | Diversity in American Society (required)   | 3       | IDS102 or Proficiency  |                     |

^ Based on SSC placement scores

^^ To promote student success, this course should be taken in the first semester

\*Required if also taking PHY222

\*\*Required if taking BIO241

▲-Fall only courses. Please see your academic advisor for availability.

▲+Spring only courses. Please see your academic advisor for availability.

|   |                    |               |
|---|--------------------|---------------|
| <b>2022-23 Catalog</b><br>Effective Summer 2022 | <h1>CHEMISTRY</h1> | <h2>1260</h2> |
|---|--------------------|---------------|

| <b>ARTS AND HUMANITIES: 6 credit hours across two disciplines</b>   |  |              |  |  |
|---|--|--------------|--|--|
| ENG233  | British Literature: Med to 1785                      | 3            | ENG124   |  |
| ENG234  | British Literature: 1785 to Present                  | 3            | ENG124   |  |
| ENG236  | American Literature: Colonial to 1865                | 3            | ENG124   |  |
| ENG237  | American Literature: 1865 to Present                 | 3            | ENG124   |  |
| ENG240  | Women's Literature                                   | 3            | ENG124   |  |
| HIS121  | U.S. History I to 1877                               | 3            |  |  |
| HIS122  | U.S. History II from 1877                            | 3            |  |  |
| HIS221  | World Civilization to 17 <sup>th</sup> Century       | 3            |  |  |
| HIS222  | World Civilization from 17 <sup>th</sup> Century     | 3            |  |  |
| PHL122  | Ethics   | 3            |  |  |
| <b>ELECTIVES: Select additional credits from Natural Sciences, Mathematics, or the electives categories to complete the total of 60-65 credit hours</b> |  |              |  |  |
| CHM105  | Introduction to Forensic Science (lab)               | 3            |  |  |
| CHM243  | Biochemistry I ▲-                                    | 3            | CHM123 or CHM141                                       |  |
| PHY105  | Astronomy (lab)                                      | 4            |  |  |
| PHY122  | College Physics II with Algebra (lab) ▲*             | 4            | PHY121   |  |
| PHY222  | General Physics II with Calculus (lab) ▲+            | 5            | Pre-PHY222 and Co-MTH225                               |  |
| GEO141  | Physical Geology (lab)                               | 4            |  |  |
| BIO142  | General Biology II (lab) ▲+                          | 4            |  |  |
| BIO241  | General Genetics (lab) ▲-                            | 4            | BIO141   |  |
| MTH124  | Statistics <sup>^</sup>                              | 3            | MTH022 or Pre-Co-MTH024<br>or Proficiency              |  |
| MTH227  | Ordinary Differential Equations                      | 4            | MTH224   |  |
| COM121  | Effective Speaking                                   | 3            |  |  |
| COM122  | Interpersonal Communication                          | 3            |  |  |
| CJS121  | Introduction to Criminal Justice                     | 3            |  |  |
| CSE122  | Programming Logic and Problem Solving <sup>^</sup>   | 3            | (IDS102 or Proficiency) and<br>(ITD100 or Proficiency) |  |
| ENG221  | Technical Report Writing                             | 3            | ENG124   |  |
| ENG231  | College Composition II                               | 3            | ENG124   |  |
| ITD122  | Computer Applications for Professionals <sup>^</sup> | 3            | ITD100 or Proficiency                                  |  |
| PET131  | Corrosion Basics                                     | 3            |  |  |
| SOC121  | Sociology <sup>^</sup>                               | 3            | IDS102 or Proficiency                                  |  |
| SOC122  | Society and Technology                               | 3            |  |  |
| SCI273  | Special Topics in Science                            | 3            |  |  |
| SSC201  | Study Away: Experiential Learning                    | 1            |  |  |
| <b>TOTAL CREDIT HOURS</b>   |  | <b>60-65</b> |  |  |

<sup>^</sup> Based on SSC placement scores

<sup>^^</sup> To promote student success, this course should be taken in the first semester

\*Required if also taking PHY222

\*\*Required if taking BIO241

▲-Fall only courses. Please see your academic advisor for availability.

▲+Spring only courses. Please see your academic advisor for availability.

▲\*Summer only courses. Please see your academic advisor for availability.

## PART-TIME STUDENT ADVISING NOTES

Academic Advising

Students should make an appointment to see their advisor before registering for classes each semester. They should have prepared a completed registration form, including courses they wish to take, prior to this meeting.

Course Sequence

The semester-by-semester listing below provides the normal scheduling option for full-time students who plan to finish in two years.

Elective Additional Credit

Self-selection of courses and not following the approved degree program could adversely affect graduation, transfer to a 4-year institution, and financial aid. Visit Transferology at <http://www.transferology.com> to assist in developing a plan for transferring to another college or university. Students should select Ohio Transfer 36 approved and TAG approved courses.

Bachelor's Degree

Bachelor's degree requirements and course transferability are controlled by the institution to which the student plans to transfer.

| <u>First Semester</u>                                      |  | <u>Credit Hours</u> | <u>Pre- and Co-requisites</u>  |
|--|--|---------------------|--|
| SSC101   | Student Success Seminar <sup>^^</sup>                | 1                   | <i>Take first semester</i>   |
| CHM141   | General Chemistry I (lab)                            | 5                   | (CHM101 <b>or</b> Proficiency) <b>or</b><br>(MTH024 <b>or</b> MTH025 <b>or</b><br>Proficiency) |
| <i>Mathematics, Statistics, and Logic</i> <sup>3</sup>     |  | <u>4</u>            | <i>Check for prerequisite</i>  |
|  |  | <b>10</b>           |  |
| <u>Second Semester</u>                                     |  |                     |  |
| CHM142   | General Chemistry II (lab) <sup>▲+</sup>             | 5                   | CHM141   |
| ENG124   | College Composition <sup>^</sup> ( <b>required</b> ) | <u>3</u>            | Co-ENG024 <b>or</b> Co-ENG011<br><b>or</b> Proficiency   |
|  |  | <b>8</b>            |  |
| <u>Third Semester</u>                                      |  |                     |  |
| <i>Mathematics, Statistics, and Logic</i> <sup>3</sup>     |  | <u>4</u>            | <i>Check for prerequisite</i>  |
| SOC225   | Diversity in American Society<br>( <b>required</b> ) | <u>3</u>            | IDS102 <b>or</b> Proficiency   |
|  |  | <b>7</b>            |  |
| <u>Fourth Semester</u>                                     |  |                     |  |
| <i>Arts and Humanities Elective</i> <sup>2</sup>           |  | 3                   | <i>Check for prerequisite</i>  |
| <i>Social and Behavioral Science Elective</i> <sup>1</sup> |  | <u>3</u>            | <i>Check for prerequisite</i>  |
|  |  | <b>6</b>            |  |
| <u>Fifth Semester</u>                                      |  |                     |  |
| CHM241   | Organic Chemistry I (lab) <sup>▲-</sup>              | 5                   | CHM142   |
| <i>Arts and Humanities Elective</i> <sup>2</sup>           |  | <u>3</u>            | <i>Check for prerequisite</i>  |
|  |  | <b>8</b>            |  |
| <u>Sixth Semester</u>                                      |  |                     |  |
| CHM242   | Organic Chemistry II (lab) <sup>▲+</sup>             | 5                   | CHM241   |
| <i>Elective</i> <sup>3,6</sup>                             |  | <u>3-4</u>          | <i>Check for prerequisite</i>  |
|  |  | <b>8-9</b>          |  |
| <u>Seventh Semester</u>                                    |  |                     |  |
| <i>Natural Science Elective</i> <sup>4</sup>               |  | 3-5                 | <i>Check for prerequisite</i>  |
| <i>Elective(s)</i> <sup>3,5</sup>                          |  | <u>3-4</u>          | <i>Check for prerequisite</i>  |
|  |  | <b>6-9</b>          |  |
| <u>Eighth Semester</u>                                     |  |                     |  |
| <i>Elective(s)</i> <sup>3,5</sup>                          |  | <u>4-7</u>          | <i>Check for prerequisite</i>  |
|  |  | <b>4-7</b>          |  |
| <b>TOTAL CREDITS</b>                                       |  | <b>60-65</b>        |  |

<sup>^</sup>Based on SSC placement scores

<sup>^^</sup>To promote student success, this course should be taken in the first semester

<sup>1</sup> Social and Behavioral Science Electives: BUS122, BUS221, BUS222, PSC121, PSY121, PSY124, PSY220, SOC121, SOC122

<sup>2</sup> Arts and Humanities Electives: ENG233, ENG234, ENG236, ENG237, ENG240, HIS121, HIS122, HIS221, HIS222, PHL122

<sup>3</sup> Mathematics, Statistics and Logic Electives: MTH135, MTH223, MTH224, MTH225\*

<sup>4</sup> Natural Science Electives: CHM205, PHY121, PHY221, BIO141\*\*

<sup>5</sup> Electives: CHM105, CHM243, PHY105, PHY122, PHY222, GEO141, BIO142, BIO241, MTH124, MTH227, COM121, COM122, CJS121, CSE122, ENG221, ENG231, ITD122, PET131, SOC121, SOC122, SCI273, SSC201

<sup>6</sup> Select additional courses to complete the total of 60-65 credit hours.

\*Required if also taking PHY222

\*\* Required if also taking BIO241

▲-Fall only courses. Please see your academic advisor for availability.

▲+Spring only courses. Please see your academic advisor for availability.