



**Chemistry (CHEM)**

**First Year**

**Fall Semester**

| Code     | Title                           | Credits | Prerequisites                            | Corequisites |
|----------|---------------------------------|---------|--|--------------|
| ARAB200  | Arabic Language and Literature  | 3       |  |              |
| PHYS280  | Electricity and Magnetism       | 3       | PHYS161 - MATH161 -<br>PHYS160 - MATH160 |              |
| CHEM200L | General Chemistry Lab           | 1       | ENGL101 - CHEM160                        | CHEM200      |
| ENGL201  | Composition and Research Skills | 3       | ENGL151                                  |              |
| MATH210  | Calculus II                     | 3       | MATH161 - MATH160                        |              |
| CHEM200  | General Chemistry               | 3       | ENGL101 - CHEM160                        | CHEM200L     |
| Total    |                                 | 16      |  |              |

**Spring Semester**

| Code     | Title                     | Credits | Prerequisites   | Corequisites |
|----------|---------------------------|---------|---|--------------|
| CHEM260L | Analytical Chemistry Lab  | 1       | CHEM200   | CHEM260      |
| CHEM260  | Analytical Chemistry      | 3       | CHEM200   | CHEM260L     |
| PHYS250  | Thermodynamic and Waves   | 3       | PHYS161 - MATH161 -<br>ENGL051 - MATH160 -<br>PHYS160 |              |
| CHEM250  | Organic Chemistry I       | 3       | ENGL051 - ENGL101 -<br>CHEM200                        |              |
| CSCI200  | Introduction to Computers | 3       | ENGL051   |              |
| ENGL251  | Communication Skills      | 3       | ENGL201   |              |
| Total    |                           | 16      |   |              |

**Second Year**

**Fall Semester**

| Code     | Title                           | Credits | Prerequisites                  | Corequisites |
|----------|---------------------------------|---------|--------------------------------|--------------|
| CHEM300  | Organic Chemistry II            | 3       | ENGL051 - ENGL101 -<br>CHEM250 |              |
| CHEM300L | Organic Chemistry Lab           | 2       | ENGL051 - ENGL101 -<br>CHEM250 |              |
| CHEM310  | Physical Chemistry I            | 3       | CHEM200                        | CHEM310L     |
| BMKT300  | Marketing Theory and Principles | 3       |                                | ENGL201      |
| CHEM310L | Physical Chemistry I Lab        | 1       | CHEM200                        | CHEM310      |
| CHEM370  | Inorganic Chemistry I           | 3       | CHEM200                        | CHEM370L     |
| CHEM370L | Inorganic Chemistry I Lab       | 1       | CHEM200                        | CHEM370      |
| Total    |                                 | 16      |                                |              |

**Spring Semester**

| Code     | Title                           | Credits | Prerequisites | Corequisites |
|----------|---------------------------------|---------|---------------|--------------|
|          | Elective                        | 3       |               |              |
| MATH270  | Ordinary Differential Equations | 3       | MATH210       | MATH225      |
| CHEM430  | Instrumental Chemistry          | 3       | CHEM260       |              |
| CHEM350  | Organic Chemistry III           | 3       | CHEM300       | CHEM350L     |
| CHEM400  | Inorganic Chemistry II          | 3       | CHEM370       |              |
| CHEM350L | Organic Chemistry Lab III Lab   | 1       |               | CHEM350      |
| Total    |                                 | 16      |               |              |

**Third Year**

| <b>Fall Semester</b> |                                      |                |                      |                     |
|----------------------|--------------------------------------|----------------|----------------------|---------------------|
| <b>Code</b>          | <b>Title</b>                         | <b>Credits</b> | <b>Prerequisites</b> | <b>Corequisites</b> |
| CHEM360              | Physical Chemistry II                | 3              | CHEM310              |                     |
| CHEM410              | Structure Determination of Compounds | 3              | CHEM300              |                     |
| CHEM490              | Modern Topics in Chemistry           | 2              | CHEM310 - CHEM300    |                     |
|                      | Elective                             | 3              |                      |                     |
| CHEM465              | Environmental Chemistry              | 3              | CHEM300              |                     |
|                      | Elective                             | 3              |                      |                     |
| Total                |                                      | 17             |                      |                     |

| <b>Spring Semester</b> |   |                |                             |                     |
|------------------------|---|----------------|-----------------------------|---------------------|
| <b>Code</b>            | <b>Title</b>                                | <b>Credits</b> | <b>Prerequisites</b>        | <b>Corequisites</b> |
| MATH245                | Statistics for Health Sciences              | 3              | ENGL051 - ENGL101 - ENGL151 |                     |
|                        | Elective                                    | 3              |                             |                     |
| CULT200                | Introduction to Arab - Islamic Civilization | 3              |                             |                     |
| CHEM420                | Industrial Chemistry                        | 3              | CHEM300 - CHEM310           |                     |
|                        | Elective                                    | 3              |                             |                     |
| CHEM480                | Senior Project in Chemistry                 | 3              | CHEM370 - CHEM350 - CHEM310 |                     |
| Total                  |   | 18             |                             |                     |

### Major Elective Courses

| <b>Code</b> | <b>Title</b>                        | <b>Credits</b> | <b>Prerequisites</b> | <b>Corequisites</b> |
|-------------|-------------------------------------|----------------|----------------------|---------------------|
| BIOC300     | Biochemistry I (General)            | 4              | CHEM250              |                     |
| BMED450     | Clinical Chemistry                  | 3              | BIOC300              |                     |
| EDIT250     | Educational Technology for Teachers | 3              | CSCI200              |                     |
| FDSC370     | Food Chemistry                      | 3              | CHEM250              |                     |
| FDSC420     | Food Processing                     | 3              | CHEM250              |                     |
| MATH225     | Linear Algebra with Applications    | 3              | MATH161 - MATH160    |                     |
| MATH265     | Introduction to Linear Algebra      | 3              | MATH161 - MATH160    |                     |
| MATH330     | Partial Differential Equations      | 3              | MATH270              |                     |
| PHYS340     | Modern Physics                      | 3              | PHYS250              |                     |