

Students Entering Fall 2022 and after

**Chemical Engineering**

**Chemical Engineering  
and Engineering and Public Policy**

| <b>First Year Fall</b>                                  | <b>Units</b> | <b>First Year Fall</b>                            | <b>Units</b> |
|---------------------------------------------------------|--------------|---------------------------------------------------|--------------|
| 06-100 Intro to Chemical Engineering                    | 12           | Same                                              | 12           |
| 21-120 Differential and Integral Calculus               | 10           | Same                                              | 10           |
| 09-105 Introduction to Modern Chemistry I               | 10           | Same                                              | 10           |
| 99-101 Computing @ Carnegie Mellon                      | 3            | Same                                              | 3            |
| 76-xxx First-Year Writing Requirement                   | 9            | Same                                              | 9            |
| <b>First Year Spring</b>                                | <b>Units</b> | <b>First Year Spring</b>                          | <b>Units</b> |
| xx-xxx Second Introductory Engineering Course           | 12           | 19-101 Intro to Engineering and Public Policy     | 12           |
| 33-141 Physics I for Engineering Students               | 12           | Same                                              | 12           |
| 21-122 Integration and Approximation                    | 10           | Same                                              | 10           |
| xx-xxx General Education Course 1                       | 9            | 73-102 Principles of Microeconomics               | 9            |
| <b>Second Year Fall</b>                                 | <b>Units</b> | <b>Second Year Fall</b>                           | <b>Units</b> |
| 06-223 Chemical Engineering Thermodynamics              | 12           | Same                                              | 12           |
| 06-222 Sophomore Chemical Engineering Seminar           | 1            | Same                                              | 1            |
| 21-254 Linear Algebra and Vector Calculus for Engineers | 11           | Same                                              | 11           |
| 09-106 Modern Chemistry II                              | 10           | Same                                              | 10           |
| xx-xxx Computer Science/Physics II*                     | 10-12        | Same                                              | 10-12        |
| 39-210 Experiential Learning I                          | 0            | Same                                              | 0            |
| xx-xxx General Education Course 2                       | 9            | 36-220 Engineering Statistics and Quality Control | 9            |
|                                                         |              | 19-201 EPP Sophomore Seminar                      | 1            |
| <b>Second Year Spring</b>                               | <b>Units</b> | <b>Second Year Spring</b>                         | <b>Units</b> |
| 06-261 Fluid Mechanics                                  | 9            | Same                                              | 9            |
| 06-262 Mathematical Methods of Chemical Engineering     | 12           | Same                                              | 12           |
| 09-221 Laboratory I: Introduction to Chemical Analysis  | 12           | Same                                              | 12           |
| xx-xxx Physics II/Computer Science*                     | 10-12        | Same                                              | 10-12        |
| 39-220 Experiential Learning II                         | 0            | Same                                              | 0            |
| xx-xxx General Education Course 3                       | 9            | xx-xxx EPP Writing and Communication Elective     | 9            |

| <b>Third Year Fall</b>                                | <b>Units</b> | <b>Third Year Fall</b>                                | <b>Units</b> |
|-------------------------------------------------------|--------------|-------------------------------------------------------|--------------|
| 06-310 Molecular Foundations of Chemical Engineering  | 9            | Same                                                  | 9            |
| 06-322 Junior Chemical Engineering Seminar            | 2            | Same                                                  | 2            |
| 06-323 Heat and Mass Transfer                         | 9            | Same                                                  | 9            |
| 06-325 Numerical Methods & ML for ChemE               | 6            | Same                                                  | 6            |
| 06-326 Optimization Modeling and Algorithms           | 6            | Same                                                  | 6            |
| 09-217 Organic Chem. I or 09-219 Modern Organic Chem. | 9-10         | Same                                                  | 9-10         |
| 39-310 Experiential Learning III                      | 0            | Same                                                  | 0            |
| xx-xxx General Education Course 4                     | 9            | xx-xxx EPP Decision Science Elective                  | 9            |
| <b>Third Year Spring</b>                              | <b>Units</b> | <b>Third Year Spring</b>                              | <b>Units</b> |
| 06-361 Unit Operations of Chemical Engineering        | 9            | Same                                                  | 9            |
| 06-363 Transport Process Laboratory                   | 9            | Same                                                  | 9            |
| 06-364 Chemical Reaction Engineering                  | 9            | Same                                                  | 9            |
| xx-xxx Advanced Chemistry Elective                    | 9            | xx-xxx General Education Elective                     | 9            |
| xx-xxx General Education Course 5                     | 9            | 19-351 Applied Methods for Technology Policy Analysis | 9            |
| xx-xxx Free Elective                                  | *            | xx-xxx EPP Technology Policy Elective 1               | *            |
| <b>Fourth Year Fall</b>                               | <b>Units</b> | <b>Fourth Year Fall</b>                               | <b>Units</b> |
| 06-421 Chemical Process Systems Design                | 12           | Same                                                  | 12           |
| 06-423 Unit Operations Laboratory                     | 9            | Same                                                  | 9            |
| xx-xxx General Education Course 6                     | 9            | Same                                                  | 9            |
| xx-xxx Free Elective                                  | *            | xx-xxx EPP Technology Policy Elective 2               | *            |
| xx-xxx Free Elective                                  | *            | 19-451 EPP Projects 1                                 | 12           |
| <b>Fourth Year Spring</b>                             | <b>Units</b> | <b>Fourth Year Spring</b>                             | <b>Units</b> |
| 06-463 Chemical Product Design                        | 6            | Same                                                  | 6            |
| 06-464 Chemical Engineering Process Control           | 9            | Same                                                  | 9            |
| xx-xxx General Education Course 7                     | 9            | Same                                                  | 9            |
| xx-xxx Free Elective                                  | *            | xx-xxx EPP Technology Policy Elective 3               | *            |
| xx-xxx Free Elective                                  | *            | 19-452 EPP Projects 2                                 | 12           |
| Minimum Units Required:                               | 391          |                                                       | 391          |

\* A minimum of 45 free elective units are required for Chemical Engineering. EPP students take 1 unit of EPP Sophomore Seminar and 24 units of EPP Projects as free elective units. The 24 units of EPP Technology Policy electives may be free electives or may fulfill requirements for general education. This is an example semester-by-semester plan only. Students should discuss course progress with advisors in both ChemE and EPP to ensure all requirements for both departments and for CIT are completed.