

Sample Plan and Course Flow Chart Template – Chem-Materials

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|--------|--------------------------|---|--|---|---|--|
| Year 1 | Semester 1 (16 Units) | CHEM 02/02H General Chemistry I (4 units) | SPARK Seminar (4 units) | MATH 21 Calculus I for Physical Sciences & Engineering (4 units) | Computer Science Requirement (4 units) | |
| | Semester 2 (16 Units) | CHEM 10 General Chemistry II (4 units) | WRI 10 College Reading & Composition (4 units) | MATH 22 Calculus II for Physical Sciences & Engineering (4 units) | PHYS 08/08H & 08L Introductory Physics I & Lab (4 units) | |
| Year 2 | Semester 3 (16 Units) | CHEM 08/08H & 08L Organic Chemistry I (4 units) | Approaches to Knowledge Area B (4 units) | MATH 023 Vector Calculus (4 units) | PHYS 09/09H & 09L Introductory Physics II & Lab (4 units) | |
| | Semester 4 (17 Units) | CHEM 100 Organic Synthesis and Mechanism (4 units) | Approaches to Knowledge Area B (4 units) | MATH 024 Linear Algebra & Differential Equations (4 units) | BIO 01 & 01L Contemporary Biology and Lab (5 units) | |
| Year 3 | Semester 5 (14 Units) | CHEM 101L Advanced Synthetic Lab (2 units) | CHEM 112 Quantum Chemistry and Spectroscopy (4 units) | ENGR 45 Introduction to Materials (4 units) | CHEM 111/BIO 101 Biochemistry I (4 units) Crossroads Course | |
| | Semester 6 (14 Units) | CHEM 113 Chemical Thermodynamics and Kinetics (4 units) | CHEM 153 Physical Chemistry Lab (2 units) *Writing in Discipline | MATH 032 Probability and Statistics (4 units) | Approaches to Knowledge Area B (4 units) | |
| Year 4 | Semester 7 (16 Units) | CHEM 115 Instrumental Analysis (3 units) | Free Elective (4 units) | CHEM 120 Inorganic Chemistry (3 units) | CHEM 155 Instrumental Lab (2 units) | UD Materials Science Emphasis Elective (4 units) |
| | Semester 8 (15 Units) | CHEM 150 Inorganic Lab (2 units) | CHEM 194 Ethics and Communications (1 unit) *Integrative Culminating Experience | UD In-Depth Emphasis Elective (4 units) | Free Elective (4 units) | Free Elective (4 units) |

Major Requirement Only
 General Education Requirement Only
 Major Requirement and General Education Requirement Free
 Elective units Meets Badge

- This sample plan demonstrates the recommended sequencing and timing of the required and elective components within the major.
- In many cases, a student's academic background will require variations in the timing of the coursework listed in the plan.
- All students are expected to work with their academic advisor to find their best pathway through the degree requirements of their chosen program.