Chemical engineering emerged over a century ago when engineering professionals were needed to design and implement processes for large, commercial scale chemical production. Modern chemical engineering combines knowledge of chemistry and molecular interactions with the discipline of engineering to address problems at both the small scale (designing nanodevices, for example) and the large scale (bringing chemistry out of the lab to the full scale production of items that we use every day). Chemical engineers invent new processes, improve existing ones and design and operate plants and equipment to transform raw feedstocks into useful products across a wide range of industries including agricultural and food-based products, consumer products, fine chemicals, fuels and petrochemicals, pharmaceuticals, plastics and electronic materials.

### Freshman Year

**FALL SEMESTER**
- EGR 101 - ENGINEERING EXPLORATION I - 1
- EGR 102 - FUNDAMENTALS OF ENGINEERING COMPUTING - 2
- Choose CHE 105 or PHY 231 - 4
- CHE 111 - LABORATORY TO ACCOMPANY GENERAL CHEMISTRY I - 1
- UK Core - Comp. & Comm. I - 3
- MA 113 - CALCULUS I - 4

**TOTAL HOURS: 15**

Total Freshman Hours: 31

**SPRING SEMESTER**
- EGR 103 - ENGINEERING EXPLORATION II - 2
- UK Core - Comp. & Comm. II - 3
- MA 114 - CALCULUS II - 4
- Choose CHE 105 or PHY 231 - 4
- UK Core - Social Sciences - 3

**TOTAL HOURS: 16**

### Sophomore Year

**FALL SEMESTER**
- CME 200 - PROCESS PRINCIPLES - 3
- MA 213 - CALCULUS III - 4
- CHE 107 - GENERAL COLLEGE CHEMISTRY II - 3
- CHE 113 - LABORATORY TO ACCOMPANY GENERAL CHEMISTRY II - 2
- MSE 201 - MATERIALS SCIENCE - 3
- UK Core - Humanities - 3

**TOTAL HOURS: 18**

Total Sophomore Hours: 35

**SPRING SEMESTER**
- CME 320 - ENGINEERING THERMODYNAMICS - 4
- CME 220 - COMPUTATIONAL TOOLS IN CHEMICAL ENGINEERING - 3
- MA 214 - CALCULUS IV - 3
- PHY 232 - GENERAL UNIVERSITY PHYSICS - 4
- STA 381 - ENGINEERING STATISTICS - A CONCEPTUAL APPROACH - 3

**TOTAL HOURS: 17**

### Junior Year

**FALL SEMESTER**
- CME 415 - SEPARATION PROCESSES - 3
- CHE 446G - PHYSICAL CHEMISTRY FOR ENGINEERS - 3
- CME 330 - FLUID MECHANICS - 3

**SPRING SEMESTER**
- CME 006 - THE ENGINEERING PROFESSION (JUNIOR AND SENIOR) - 3
- CME 420 - PROCESS MODELING IN CHEMICAL
WRD 204 - TECHNICAL WRITING - 3
CHE 230 - ORGANIC CHEMISTRY I - 3
CHE 231 - ORGANIC CHEMISTRY LABORATORY I - 1

**TOTAL HOURS: 16**

Total Junior Hours: 34

**ENGINEERING - 3**
CME 425 - HEAT AND MASS TRANSFER - 4
CME 432 - CHEMICAL ENGINEERING LABORATORY I - 2
CHE 232 - ORGANIC CHEMISTRY II - 3
UK Core - Community, Culture and Citizen - 3
Engineering/Sci Elective (Choose 3 hrs) -

**TOTAL HOURS: 18**

**Senior Year**

**FALL SEMESTER**
CME 006 - THE ENGINEERING PROFESSION (JUNIOR AND SENIOR) -
CME 470 - PROFESSIONALISM, ETHICS AND SAFETY - 2
CME 433 - CHEMICAL ENGINEERING LABORATORY - 3
CME 455 - CHEMICAL ENGINEERING PRODUCT AND PROCESS DESIGN I - 3
CME 550 - CHEMICAL REACTOR DESIGN - 3
UK Core - Global Dynamics - 3
Engineering/Sci Elective (Choose 3 hrs) -

**TOTAL HOURS: 17**

Total Senior Hours: 33

**SPRING SEMESTER**
CME 006 - THE ENGINEERING PROFESSION (JUNIOR AND SENIOR) -
CME 456 - CHEMICAL ENGINEERING PROCESS DESIGN II - 4
CME 462 - PROCESS CONTROL - 3
Supportive Elective - 3
Engineering/Sci Elective (Choose 3 hrs) -
Engineering/Sci Elective (Choose 3 hrs) -

**TOTAL HOURS: 16**

**Total Minimum hours Required for Degree: 133 hours**

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