

Common Engineering Electives for Chemical & Petroleum Engineering Students

Updated by BK 11/30/2022

Approved by KJN

Aerospace Engineering Courses

AE 360. Introduction to Astronautics. 3 Hours.

AE 421. Aerospace Computer Graphics. 3 Hours.

AE 507. Aerospace Structures I. 3 Hours.

Chemical & Petroleum Engineering Courses

C&PE 217. Introduction to Petroleum Drilling Engineering. 2 Hours.

C&PE 219. Drilling Fluids Laboratory. 1 Hour.

C&PE 226. Fundamentals of Biomedical & Biomolecular Engineering. 3 Hours.

C&PE 327. Reservoir Engineering. 4 Hours.

C&PE 527. Reservoir Engineering II. 4 Hours.

C&PE 528. Well Logging. 3 Hours.

C&PE 601. Undergraduate Topics in Chemical and Petroleum Engineering. 1-4 Hours.

C&PE 617. Drilling and Well Completion. 3 Hours.

C&PE 618. Secondary Recovery. 4 Hours.

C&PE 619. Petroleum Engineering Laboratory I. 3 Hours.

C&PE 620. Enhanced Oil Recovery. 3 Hours.

C&PE 625. Unconventional Reservoirs. 3 Hours.

C&PE 627. Petroleum Production. 3 Hours.

C&PE 640. Natural Gas Engineering. 3 Hours.

C&PE 651. Undergraduate Problems. 1-6 Hours.

C&PE 655. Introduction to Semiconductor Processing. 3 Hours.

C&PE 656. Introduction to Biomedical Engineering. 3 Hours.

C&PE 657. Polymer Science and Technology. 3 Hours.

C&PE 661. Undergraduate Honors Research. 1-3 Hours.

C&PE 671. Senior Thesis. 3 Hours.

C&PE 676. Principles of Biomolecular Engineering. 3 Hours.

C&PE 678. Applied Optimization Methods. 3 Hours.

C&PE 686. Bioprocess Engineering. 3 Hours.

C&PE 701. Methods of Chemical and Petroleum Calculations. 3 Hours.

C&PE 715. Topics in Chemical and Petroleum Engineering: _____. 1-4 Hours.

C&PE 721. Chemical Engineering Thermodynamics. 3 Hours.

C&PE 722. Kinetics and Catalysis. 3 Hours.

C&PE 731. Convective Heat and Momentum Transfer. 3 Hours.

C&PE 732. Advanced Transport Phenomena II. 3 Hours.

C&PE 751. Basic Rheology. 3 Hours.

C&PE 752. Tissue Engineering. 3 Hours.

C&PE 753. Introduction to Electrochemical Engineering. 3 Hours.

C&PE 755. Introduction to Semiconductor Processing. 3 Hours.

C&PE 756. Introduction to Biomedical Engineering. 3 Hours.

C&PE 757. Polymer Science and Technology. 3 Hours.

C&PE 765. Corrosion Engineering. 3 Hours

C&PE 771. Advanced Reservoir Engineering. 2-3 Hours.

C&PE 778. Applied Optimization Methods. 3 Hours.

C&PE 790. Introduction to Flow in Porous Media. 3 Hours.
C&PE 795. Enhanced Petroleum Recovery. 3 Hours.
C&PE 798. Phase Equilibrium. 3 Hours.

Civil, Environmental & Arch Engineering Courses

- ARCE 217. Computer-Assisted Building Design. 3 Hours.
- CE 201. Statics. 2 Hours.
- CE 250. Dynamics. 3 Hours.
- CE 260. Statics and Dynamics. 5 Hours.
- CE 310. Strength of Materials. 4 Hours.
- CE 455. Hydrology. 3 Hours.
- CE 477. Introduction to Environmental Engineering and Sciences. 3 Hours.
- CE 479. Introduction to Environmental Engineering and Sciences (honors). 3 Hours.
- CE 490. Special Problems. 1-5 Hours.
- CE 495. Special Topics: _____. 1-3 Hours.
- CE 550. Life Cycle Assessment. 3 Hours.
- CE 570. Concepts of Environmental Chemistry. 3 Hours.
- CE 571. Environmental Engr Laboratory. 3 Hour.
- CE 573. Biological Principles of Environmental Engineering. 3 Hours.
- CE 574. Design of Air Pollution Control Systems. 3 Hours.
- CE 576. Municipal Water Supply and Wastewater Treatment. 4 Hours AE61.
- CE 577. Industrial Water and Wastes. 3 Hours.
- CE 715. Corrosion Engineering. 3 Hours.
- CE 770. Concepts of Environmental Chemistry. 3 Hours.
- CE 771. Environmental Engr Laboratory. 3 Hour.
- CE 772. Physical Principles of Environmental Engineering Processes. 3 Hours.
- CE 773. Biological Principles of Environmental Engineering. 3 Hours.
- CE 774. Chemical Principles of Environmental Engineering Processes. 3 Hours.
- CE 778. Air Quality. 3 Hours.
- CE 779. Water Quality. 3 Hours.
- CE 797. Environmental Engineering and Science in Developing Countries. 3 Hours.

Electrical Engineering and Computer Science Courses

- EECS 140. Introduction to Digital Logic Design. 4 Hours.
- EECS 141. Introduction to Digital Logic: Honors. 4 Hours.
- EECS 168. Programming I. 4 Hours.
- EECS 169. Programming I: Honors. 4 Hours.
- EECS 210. Discrete Structures. 4 Hours.
- EECS 211. Circuits I. 3 Hours.
- EECS 212. Circuits II. 4 Hours.
- EECS 220. Electromagnetics I. 4 Hours.
- EECS 221. Electromagnetics I. 3 Hours.
- EECS 268. Programming II. 4 Hours.
- EECS 312. Electronic Circuits I. 3 Hours.
- EECS 315. Electric Circuits and Machines. 3 Hours.
- EECS 316. Circuits, Electronics and Instrumentation. 3 Hours.

Mechanical Engineering Courses

- ME 201. Statics. 2 Hours.
- ME 210. Introduction to Mechanics. 1 Hour.
- ME 211. Statics and Introduction to Mechanics. 3 Hours.
- ME 228. Computer Graphics. 3 Hours.
- ME 306. Science of Materials. 3 Hours.
- ME 307. Engineering Materials Laboratory. 2 Hours.

Mechanical Engineering Courses (continued)

- ME 311. Mechanics of Materials. 3 Hours.
- ME 320. Dynamics. 3 Hours.
- ME 360. Mechanical Engineering Problems. 1-3 Hours.
- ME 361. Undergraduate Honors Research. 1-3 Hours.
- ME 390. Special Topics: _____. 1-5 Hours.
- ME 633. Basic Biomechanics. 3 Hours.
- ME 639. Alternative Energy Systems. 3 Hours.
- ME 718. Fundamentals of Fuel Cells. 3 Hours.
- ME 760. Biomedical Product Development. 3 Hours.
- ME 765. Biomaterials. 3 Hours.
- ME 767. Molecular Biomimetics. 3 Hours.

Navy Courses

- NAVY 184 Intro to Naval Ship Systems II. 3 Hours.
- NAVY 300 Navigation and Operations I. 3 Hours.
- NAVY 304 Navigation and Operations II. 3 Hours.