



COLLEGE OF  
ENGINEERING, ARCHITECTURE  
AND TECHNOLOGY

# CHE CHEMICAL ENGINEERING



## WHAT IS CHEMICAL ENGINEERING?

Chemical engineering uses chemistry, math, and physics to design and optimize processes to produce, transform, and transport materials or energy – beginning with experimentation and modeling in the laboratory followed by implementation of the technology. Traditional careers are in the chemical and petroleum industries, with increasing opportunities in pharmaceuticals, materials, food products and processing, and biotechnology.

## WHY CHEMICAL ENGINEERING AT OSU?

The mission of the School of Chemical Engineering at Oklahoma State University is to develop human resources, professional knowledge, and the infrastructure through which chemical engineering can contribute to human welfare. Faculty expertise has a balance of industrial experience and theoretical analysis, which contributes to bringing practice-oriented applications into teaching efforts.

## HIGHLIGHTS

- OSU has been named to Kiplinger's Personal Finance Best College Value list 15 times since 2000. Over 70% of chemical engineering students receive financial aid from the university and nearly 50% of OSU students graduate with no debt.
- Students in chemical engineering win many individual awards on campus and at the national level, including Gates Cambridge Scholarship, USA Today All-American Academic Award, Rhodes Scholarship Finalist, Goldwater Scholarship, and NSF Graduate Research Fellowship.
- Engineering laboratory courses are located in the new ENDEAVOR interdisciplinary laboratory building that is on the leading edge of learning by providing students a combined experience in engineering, advanced technology, and entrepreneurship.
- Industry partners work with students on interdisciplinary design projects and students have success in the AIChE National Student Design Competition with the most team wins than any other school in the country.
- There are many opportunities to be involved in active professional societies, including the local chapters of the American Institute of Chemical Engineers, Society of Petroleum Engineers, and the American Association of Drilling Engineers that connect students to professionals in the field and provide opportunities to attend national and international meetings.
- Students completing a degree in chemical engineering at OSU experience high acceptance rates to medical and graduate schools. Seven of our alumni have completed MS degrees at the University of Cambridge since 2006.

## CAREER INDUSTRIES & FOCUS AREAS

### OPTIONS

- Biomedical/Biochemical
- Pre-Medical
- Minor in Petroleum Engineering

### CAREER OPPORTUNITIES

- Process Engineer
- Production Engineer
- Field Engineer
- Process Safety Engineer
- Project Management
- Research & Development
- Other: Law, Medicine, Finance



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# Typical Four-Year Curriculum

**FIRST YEAR****Fall Semester**

CHEM	1314	Gen Chemistry I
ENGL	1103	Engl Comp I
ENGR	1111	Intro to Engr
ENGR	1412	Engr Comp Programming
HIST	1103	American Hist
MATH	2144	Calculus I

**Spring Semester**

CHEM	1515	Gen Chemistry II
ENGL	1213	Engl Comp II
MATH	2153	Calculus II
PHYS	2014	Gen Physics I
POLS	1113	American Gov't

**SECOND YEAR****Fall Semester**

CHE	2023	Intro Chem Engr Thermo
CHE	2581	CHE Sophomore Seminar
CHEM	3053	Organic Chemistry I
ENSC	2113	Statics
MATH	2163	Calculus III
MATH	2233	Diff Equations

**Spring Semester**

CHE	2033	Intro to Chem Process Engr
CHEM	3112	Organic Chem Lab
CHEM	3153	Organic Chemistry II
ENSC	3233	Fluid Mechanics
PHYS	2114	Gen Physics II
XXXX	XXX3	"S/D H/I" Elective

**THIRD YEAR****Fall Semester**

CHE	3013	Rate Operations I
CHE	3333	Intro Transport Phenomena
CHE	3473	Chem Engr Thermodynamics
CHE	3543	Intro Chem Process Analytics
CHE	3581	CHE Junior Seminar
ENSC	3231	Fluids and Hydraulics Lab

**Spring Semester**

CHE	3113	Rate Operations II
CHE	3123	Chem Reaction Engr
CHE	4002	Chem Engr Lab I
ENSC	3313	Materials Science
XXXX	XXX3	Upper Division Elective

**FOURTH YEAR****Fall Semester**

CHE	4112	Chem Engr Lab II
CHE	4124	Chem Engr Design I
CHE	4581	CHE Senior Seminar
ENGR	2421	Engr Data Acq Ctrl Lab
XXXX	XXX3	"S/D H/I" Elective
XXXX	XXX3	Upper Division Elective

**Spring Semester**

CHE	4224	Chem Engr Design II
CHE	4843	Chem Process Instr/Cntrl
CHE	XXX3	Adv CHE Elective
ENSC	2613	Intro Electrical Science
XXXX	XXX3	Upper Division Elective

## TOTAL HOURS: 127

Accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.



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This course plan is for general guidance only. An official course plan will be provided upon enrollment.

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