GRADUATE PROGRAM IN CHEMICAL ENGINEERING

MASTER OF SCIENCE IN CHEMICAL ENGINEERING FOR STUDENTS WITH A DEGREE OTHER THAN BACHELORS OF SCIENCE IN CHEMICAL ENGINEERING

SCHOOL OF CHEMICAL, BIOLOGICAL AND MATERIALS ENGINEERING
THE UNIVERSITY OF OKLAHOMA
100 East Boyd, Room T-335, Sarkeys Energy Center, Norman, OK 73019 USA
Web page: www.cbme.ou.edu, Phone: 405-325-5811, Fax: 405-325-5813

We offer a special Master's degree for students who do not have a bachelors degree in chemical engineering but still want to obtain a master's degree in that area. This curriculum has been designed to allow a student holding a B.S. degree in a field such as chemistry, physics, or mechanical engineering to complete the requirements for the M.S. degree in chemical engineering over a period of approximately three years. *The student typically will begin research with a professor during the first semester in the program.* We are assuming that the student entering the program has completed the usual complement of chemistry, math, and physics courses. This includes physical chemistry, organic chemistry, and calculus. Any deficiencies in these areas will have to be included in the curriculum. A thesis is required.

First Year, Fall	
CH E 2033 Chemical Engineering Fundamentals	3
CH E 3473 Chemical Engineering Thermodynamics	3
	6 hours
First Year, Spring	
CH E 3113 Momentum, Heat, and Mass Transfer I	3
MATH 3113 Introduction to Ordinary Differential Equations	3
	6 hours
First Year, Summer	
CH E 5980 Research Masters Thesis	3
	3 hours
Second Year, Fall	
CH E 3123 Momentum, Heat, and Mass Transfer II	3
CH E 4473 Kinetics	3
CH E 5980 Research Masters Thesis	2
	8 hours
Second Year, Spring	
CH E 3333 Separations Processes	3
CH E 3432 Unit Operations Lab	2
CH E 5980 Research Masters Thesis	2
	7 hours
Second Year, Summer	
CH E 5980 Research Masters Thesis	3
	3 hours
Third Year, Fall	
CH E 4253 Chemical Engineering Design	3
CH E 5183 Graduate Transport Phenomena	3
CH E 5843 Advanced Chemical Engineering Thermodynamics	3
CH E 5980 Research Masters Thesis	2
	11 hours
Third Year, Spring	
CH E 4153 Process Dynamics and Control	3
CH E ____ Elective, Graduate Course	3
CH E 5980 Research Masters Thesis	2
	8 hours
Third Year, Summer	
CH E 5980 Research Masters Thesis	3
	3 hours
Fourth Year, Fall	
CH E 6723 Seminar in Theoretical and Applied Kinetics	3
CH E 5980 Research Masters Thesis	2
	5 hours
Additionally, the student must take the course CH E 5971, Seminar in Chemical Engineering Research, during any four semesters.	4 hours
Total Hours Needed:	**64**

Required Courses for M.S. in Chemical Engineering for Students with a B.S. in a Field Other than Chemical Engineering

The student should have taken or expect to take the following undergraduate courses before entering the program or as part of the program.

Undergraduate Courses

Chemical Engineering

CH E 2033	Chemical Engineering Fundamentals
CH E 3113	Momentum, Heat, and Mass Transfer I
CH E 3123	Momentum, Heat, and Mass Transfer II
CH E 3333	Separations Processes
CH E 3432	Unit Operations Lab
CH E 3473	Chemical Engineering Thermodynamics

Chemistry

CHEM 3053	Organic Chemistry (First Semester)
CHEM 3152	Organic Chemistry Lab
CHEM 3421	Physical Chemistry Lab (First Semester)
CHEM 3423	Physical Chemistry I

Math

MATH 1823	Calculus and Analytic Geometry I
MATH 2423	Calculus and Analytic Geometry II
MATH 2433	Calculus and Analytic Geometry III
MATH 3113	Engineering Mathematics I

Physics

PHYS 2514	General Physics for Engineers and Science Majors
PHYS 2524	General Physics for Engineers and Science Majors

The students will need to take these courses for graduate credit for completion of the program.

Graduate Credit

Chemical Engineering

CH E 4153	Process Dynamics and Control
CH E 4253	Chemical Engineering Design I
CH E 4473	Kinetics
CH E 5183	Engineering Rate Operations
CH E 5843	Advanced Chemical Engineering Thermodynamics
CH E 5971	Research Seminar (2 hours)
CH E 5980	Research Masters Thesis (6 hours)
CH E 6723	Seminar in Theoretical and Applied Kinetics

Electives

One 3-hour graduate course*

*Graduate engineering, mathematics, or science elective, subject to CEMS Faculty approval

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