

## **Emphasis - Chemical Engineering**

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### **Ph.D. in Engineering Science Description**

The Ph.D. in engineering science is offered in a number of emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, and material science and engineering.

**Minimum Total Credit Hours: 54**

#### **Course Requirements**

A student must complete the requirements for one of the emphasis areas. All doctoral programs require completion of a comprehensive examination, dissertation prospectus, and a dissertation. See the department chair or adviser for specific requirements for an emphasis area.

### **Emphasis - Chemical Engineering Description**

A Ph.D. in engineering science with emphasis in chemical engineering prepares graduates to apply chemical engineering science (transport phenomena, thermodynamics, chemical reaction engineering, and applied mathematics). It enables them to independently execute complex projects and pursue successful careers in engineering, medicine, law, professional education, public policy, the military, management, and sales. It further equips them with the experience to conduct research—generating and disseminating new knowledge.

#### **Course Requirements**

The Ph.D. with an emphasis in chemical engineering requires a minimum of 54 hours of graduate credit past the bachelor's degree. No specific courses are required beyond those specified for the M.S. thesis option. The remainder of the coursework is agreed upon by the student and his or her committee, 18 hours of which must be dissertation (Engr 797) credit. Students whose undergraduate degree is not in chemical engineering may need to take additional courses to satisfy prerequisites.

#### **Other Academic Requirements**

Students in the Ph.D. track must achieve a GPA of 3.25 or higher on 12 credit hours selected by the committee from Engr 665, Engr 669 or any Ch E 500-/600-level course. Selection must be done by the end of the first semester. To be admitted to candidacy, the student must successfully complete the preselected courses and pass a qualifying examination. The exam consists of writing and defending an Original Research Proposal (ORP). After the ORP, the Ph.D. candidate must successfully complete a dissertation prospectus, then write and defend a dissertation.

