Nuclear Engineering

http://www.me.iastate.edu/students/degrees-and-programs/engineering-minors/

Minor administered by Mechanical Engineering

The nuclear engineering undergraduate minor allows engineering students to acquire a formal background in nuclear engineering topics that will not only benefit them, but also fulfill a societal need for future hiring of engineers. Through this program, students can enroll in a formal minor that enables them to acquire a basic and fundamental knowledge of nuclear sciences and engineering, thus enabling them to pursue employment in any one of a number of fields associated with the construction, operation or regulation of nuclear power generation.

Students completing this minor acquire a body of knowledge in the fundamentals of nuclear science and engineering. The required courses selected ensures that all graduates of the nuclear engineering minor obtain a minimum body of knowledge in nuclear science and engineering that would allow them to apply their specialized field of engineering knowledge to nuclear-related applications, such as nuclear plant and site construction, nuclear power plant operations, nuclear safety and radiation protection.

The supporting courses that are listed in this program provide an opportunity for students to build upon the knowledge gained in the required courses by taking either more advanced courses or more specialized courses dealing with specific areas of nuclear engineering.

Undergraduate Study

Students interested in completing the nuclear engineering minor must be enrolled at Iowa State University and have the appropriate technical background. They should complete and submit the “Request for Minor” form for submission to the Nuclear Engineering program director. The selection process is based on approval by the administering department, Mechanical Engineering.

The course requirements for the undergraduate minor in nuclear engineering are:

Required course:		
NUC E 401	Nuclear Radiation Theory and Engineering	3
Four of the following:		12
NUC E 402	Nuclear Reactor Engineering *	
NUC E 405	Radiation Protection and Shielding *	
NUC E 410	Nuclear Reactor Theory *	
NUC E 421	Nuclear Criticality Safety	
NUC E 430	Nuclear Energy and Society	
NUC E 441	Probabilistic Risk Assessment	
NUC E 461	Radiation Detection, Measurement and Simulation	
NUC E 490	Independent Study	
Total Credits		**15**

*Students have the option of enrolling in these web-based distance courses offered at select universities. It is the responsibility of the student to arrange for enrollment and payment for these courses. Courses must be successfully completed with a “C” or higher in order to be considered for transfer credit. Contact the Nuclear Engineering program director for more information.

The minor must include at least nine credits which are beyond the total used to meet curriculum requirements for the bachelors degree in engineering.