

# BSE Chemical Engineering / MSE Materials Science and Engineering

## SUGS Program

Many students who enter a chemical engineering program do so out of an interest in chemistry. It is this interest in understanding the relationship between chemical structure, processing, and subsequent properties of the materials, of a molecular level understanding of how things work, that leads to an interest in materials science. Students interested in research, design, and or manufacturing of materials might therefore consider continuing their studies through this program.

This Sequential Undergraduate Graduate Studies (SUGS) program allows students to complete requirements for both degrees in five years. Students pursuing dual degrees are not eligible to enroll in SUGS programs. Students who plan to pursue a PhD should apply directly to PhD programs.

### Admission:

1. Students apply for the program early in the second term of their junior year for provisional admission into the program in order to be advised appropriately regarding planning for undergraduate and graduate course selections. SUGS students must enroll in Rackham for at least two full terms, paying Rackham tuition.
2. Applications (standard Rackham forms) are processed using Rackham Graduate admission procedures, including letters of recommendation and a personal statement.
3. An overall GPA of 3.5 or above at time of admission is required. GRE scores are not required, but will be considered if provided.

### Requirements:

1. All 128 credits of Chemical Engineering BSE requirements must be met. MSE 410, Design and Application of Biomaterials, may be used to fulfill the biology/life science requirement for chemical engineering. Two masters level MSE courses may be used to fulfill ChE technical electives.
2. Student has the choice of two M.S.E degrees: One with a primary focus on coursework (Coursework M.S.E.) or one with an emphasis on research (Research M.S.E.):

#### Coursework M.S.E.

30 credit hours of courses  
15 credit hours of MSE department courses  
Up to 8 credit hours may be satisfied by MSE 690  
At least 2 cognate courses (a minimum of 4 credit hours)  
Students taking MSE 690 must submit a research report commensurate with the number of MSE 690 credits taken. This report must be approved by the project supervisor. It may also be used as a document for the Ph.D. oral candidacy exam.

#### Research M.S.E.

30 credit hours of combined coursework and research  
12 credit hours of MSE department courses  
9 credits of MSE 690  
At least 2 cognate courses (a minimum of 4 credit hours)  
Oral master's thesis defense - The oral defense may also serve as the Ph.D. oral exam at the committee's discretion

See the *Sequential Undergraduate/Graduate study (SUGS) Programs for ChE Students* handout for more information regarding how SUGS works.

## CONTACTS

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Rackham SUGS website:

<http://www.rackham.umich.edu/current-students/policies/academic-records/sugs-information>