

BSE Chemical Engineering / MSE Chemical Engineering

SGUS Program

This Sequential Graduate/Undergraduate Study (SGUS) program allows students to complete requirements for both degrees in five years. Many students who enroll in this program plan to enter industry but seek additional intellectual depth beyond the bachelor's degree. 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. SGUS students must enroll in Rackham for two at least two full terms, paying Rackham tuition.
2. Applications (standard Rackham forms) are processed using normal Rackham Graduate admission procedures, including letters of recommendation and a personal statement. Use program code 01552.
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.
2. All 30 credits of Chemical Engineering MSE requirements must be met.
3. Up to nine hours of prior-approved coursework may be double-counted toward each of the two degrees, leading to a minimum total of:

$$128 \text{ (BSE)} + 30 \text{ (MSE)} - 9 \text{ (double-counted)} = 149 \text{ credit hours.}$$

Double-counted hours may *not* include any core courses required for the BSE degree, but may include courses elected to meet technical, biology/life science or free electives required for the BSE degree.

All double-counted hours must be acceptable for Rackham credit (non-core ChE 4xx or ChE 5xx or ChE 6xx courses, or courses in other departments at the 4xx level or above). Check the Rackham approved courses online at www.rackham.umich.edu/Programs/index.html

4. At least 21 graduate credits of Chemical Engineering coursework (reduced to 18 credits if an approved math course is taken outside the department).

These **must** include the following courses:

ChE 527: Fluid Flow (3 cr.)

ChE 528: Chemical Reaction Engineering (3 cr.)

ChE 538: Statistical and Irreversible Thermodynamics (3 cr.)

ChE 542: Intermediate Transport Phenomena (3 cr.)

One math/modeling/thermo course: ChE 507, 510, 554, or an approved course outside ChE

These **may** include ChE 595 (Research Survey, 1 credit) and up to six credit hours (total) of:

ChE 695: Research

ChE 698: Directed Study or Practical Training ******(Performed outside the University)******

Comments:

1. SGUS students must enroll in Rackham for two full terms minimum, paying full graduate tuition.
2. By Rackham requirement, students must be within 6 credits of completing their undergraduate degree to enroll in an M.S.E. program.
3. A maximum of 15 credit hours may be double counted or transferred for graduate credit, including a maximum of 9 credit hours double counted towards each of the two degrees and a maximum of 6 credit hours transferred from the undergraduate to graduate record. Credit transferred could not be double counted towards the 128 credits needed for the BSE.
4. Each degree may be awarded upon completion of requirements for the degree.
5. Hours of ChE 695, Research, can be elected for research study in a departmental research laboratory under direction of a departmental faculty member. Typically, the student would elect ChE 595 (1 credit hour) during the Fall term of the Senior year to assist in the selection of a research project and assignment to a faculty member.
6. Hours of ChE 698, Directed Study, can be elected for non-research project work in the department under direction of a departmental faculty member.
7. Hours of ChE 698, Directed Study, can be elected for industrially-oriented “practical” project experience. Typically, such study must be pre-approved, takes place in an industrial or governmental laboratory, and is jointly supervised by a departmental faculty member and on-site personnel. A formal written report and oral presentation of the study is required (requires election of 1 credit hour of ChE 490).

A Chemical Engineering Concentration cannot be obtained in the same area as an SGUS or dual degree.

CONTACTS

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