

**Engineering Core Curriculum
SAGES (Seminar Approach to General Education and Scholarship)
Effective Fall, 2009**

SAGES is an innovative undergraduate experience designed to establish foundations for academic inquiry. Students fulfill their Case School of Engineering General Education Requirements with a sequence of specially developed seminars and selected courses. Course credit earned by Advanced Placement, International Baccalaureate, proficiency examinations, and transfer may be used to satisfy general education requirements.

SAGES Program Seminars (13 semester hours)

The First Seminar* (4 semester hours, to be taken in the first semester of enrollment)

The First Seminar focuses on the development of critical thinking and communication skills through the use of a variety of approaches, media, and perspectives to explore the human mind and the nature of inquiry. This course is designed to strengthen writing and analytical skills while building a foundation in ethics, information literacy, and cultural diversity. **Select from:**

First Seminar: The Life of the Mind (FSCC 100) or

First Seminar: Natural World (FSNA 1xx) or

First Seminar: Social World (FSSO 1xx) or

First Seminar: Symbolic World (FSSY 1xx)

Term _____ Course _____ Grade _____

On the basis of test scores and a writing diagnostic, some students will be placed in First Seminars designed to provide additional writing support. Most students in these seminars will continue their First Seminar experience in a second semester. Students for whom English is a second language will continue by enrolling in and completing FSCS 150—First Seminar: Continuing Semester (3 semester hours). Students for whom English is their native language will continue by enrolling in and completing FSCS 160—First Seminar: Continuing Semester (3 semester hours).

**Transfer Students only: Transfer students who have completed the English composition/expository writing requirement with a grade of C or higher at the college/university at which they previously matriculated will receive transfer credit for FSCC T100 (3 – 6 semester hours) and will be required to complete a supplemental 1-semester hour SAGES introductory seminar – FSTS 100.*

University Seminars (6 semester hours, minimum of two seminars, to be completed in the first two years of enrollment as specified below)

After completion of the First Seminar, students must complete two University Seminars, with each seminar selected from a different thematic group and from a thematic group different from that of the student's First Seminar. Each University Seminar explores one of three themes, with the content determined according to the interests of the faculty. University Seminars provide continued experience in critical reading, writing, and oral communication as well as information literacy, ethics, and cultural diversity. **Select from:**

University Seminar: Thinking About the Natural World (USNA 2xx)

University Seminar: Thinking About the Social World (USSO 2xx)

University Seminar: Thinking About the Symbolic World (USSY 2xx)

Term _____ Course _____ Grade _____ Term _____ Course _____ Grade _____

Department Seminar (3 semester hours)

The Department Seminar includes seminar-based discussion as well as instruction and experience in the kinds of writing characteristic of the Department Seminar's discipline. The Department Seminar may be taken in the department of the student's major or in another department. It is taken after the completion of the University Seminars, ordinarily in the fourth—sixth semester of study. NOTE: Most students pursuing an Engineering degree will take ENGR 398 and ENGL 398 concurrently to complete the Department Seminar requirement.

Term _____ Course _____ Grade _____

University Composition Requirement

Students develop a Writing Portfolio comprising of a final graded writing assignments from the First Seminar and University Seminars. The Writing Portfolio is submitted for evaluation after completing the final University Seminar. Writing competence must be established in order to fulfill the University's English Composition requirement for graduation.

Writing Portfolio Term _____ Grade _____

Physical Education (Must total 2 full semesters at zero credits): Students choose from half-semester and full-semester course offerings to be completed in the first year.

Term _____ Course _____ Grade _____ Term _____ Course _____ Grade _____
Term _____ Course _____ Grade _____ Term _____ Course _____ Grade _____

Mathematics, Sciences, and Engineering Requirements

Mathematics (14 semester hours)

MATH 121 or 123

Term _____ Course _____ Grade _____

MATH 122 or 124

Term _____ Course _____ Grade _____

MATH 223 or 227

Term _____ Course _____ Grade _____

MATH 224 or 228 or MATH 234

Term _____ Course _____ Grade _____

Engineering Core Curriculum – SAGES (continued)

Mathematics, Sciences, and Engineering Requirements (continued)

Chemistry (4 semester hours)

CHEM 111* Term _____ Grade _____

Physics (8 semester hours)

PHYS 121 or 123 Term _____ Course _____ Grade _____
 PHYS 122 or 124 Term _____ Course _____ Grade _____

Engineering (18 semester hours)

ENGR 131 Term _____ Grade _____
 ENGR 145* Term _____ Grade _____
 ENGR 200 Term _____ Grade _____
 ENGR 210 Term _____ Grade _____
 ENGR 225 Term _____ Grade _____

*NOTE: The Chemistry-Materials course sequences CHEM 105-106-ENGR 145, CHEM 105-106-EMSE 201, or CHEM 105-106-EMAC 276 may substitute for the sequence CHEM 111-ENGR 145.

Natural Sciences, Mathematics, or Statistics Requirement (3 semester hours)

Course designated by major department Term _____ Course _____ Grade _____

Breadth Requirements – Humanities and Social Sciences (15 semester hours)

ENGL 398 (2 semester hours) Term _____ Course _____ Grade _____

and

ENGR 398 (1 semester hour) Term _____ Course _____ Grade _____

and

At least 12 semester hours comprised of four 3-semester hour courses or three four-semester hour courses selected from:

Humanities: Arabic (ARAB), Art History (ARTH), Art Studio (ARTS), Chinese (CHIN), Classics (CLSC), Dance (DANC), English (ENGL), French (FRCH), German (GRMN), Greek (GREK), Hebrew (HBRW), History (HSTY), Italian (ITAL), Japanese (JAPN), Latin (LATN), Music - General (MUGN), Music - History (MUHI), Music - Theory (MUTH), Philosophy (PHIL), Portuguese (PORT); Religion (RLGN), Russian (RUSN), Spanish (SPAN), Theater (THTR), World Literature (WLIT)

and/or

Social Sciences: Anthropology (ANTH), Communication Sciences (COSI), Economics (ECON), Political Science (POSC), Psychology (PSCL), Sociology (SOCL)

Term _____	Course _____	Grade _____	Term _____	Course _____	Grade _____
Term _____	Course _____	Grade _____	Term _____	Course _____	Grade _____

SAGES Senior Capstone (3 – 6 semester hours)

The Senior Capstone assimilates the knowledge and skills gained throughout the educational process. Students engage in a unique one or two semester experience designed in consultation with a faculty member. Each Capstone Experience must include key elements:

- a) Demonstration of critical thinking and writing skills;
- b) Regular oversight by the Capstone advisor;
- c) Periodic reporting of progress;
- d) Regular writing (e.g. drafts, progress reports, critiques) throughout the project including a final written report which may be a thesis or equivalent document associated with the project or activity (e.g., such pursuits as performance, experiment, live case analysis, or creative writing), as approved by the department of capstone origin;
- e) Oral reports including a final public presentation at the Senior Capstone Fair, a conference, a performance, a public lecture, a teaching presentation, or other, as approved by the department of capstone origin.

Courses meeting this requirement include the designation "Approved SAGES Capstone" in their course descriptions. Some majors include and specify a senior capstone. Please review the specific requirements of your major(s) in your *Handbook for Undergraduate Students*.

SAGES Senior Capstone Term _____ Course _____ Grade _____