

ENGINEERING SCIENCE

Program Code: E.ENS.AES

Associate in Engineering Science (A.E.S.)

Graduation requirement — 60 semester hours

The A.E.S. degree involves the completion of required general education, mathematics, and science courses as well as 10 credits in elective courses. Students are advised to follow the recommended courses for specific engineering fields but may choose from among those courses or general education courses to reach 60 semester hours.

Transfer institution requirements may vary. Students should check individual college/university requirements before choosing courses and work with an academic success advisor.

The A.E.S. does not include completion of the IAI General Education Core Curriculum (GECC) and students completing this degree will likely have additional general education requirements at their transferring institution. Since admission into baccalaureate engineering programs is highly competitive, completion of the recommended courses does not guarantee admission.

Program Notes*

- For transfer to UIUC Computer Science, MAT 200 may be substituted for MAT 229.
- CIS 122 is a prerequisite for CSC 123.
- For transfer to UIUC Computer Science, CSC 123 and CSC 125 may be substituted for CSC 127.
- For UIC Chemical Engineering, take CHE 203, CHE 204, CHE 205, CHE 206 prior to transfer; for UIUC Chemical Engineering, consult with UIUC transfer advisor.

Required Communications Courses (6 hours)

ENG 101 Composition I	3
ENG 102 Composition II	3

Required Mathematics and Science Courses (39 hours)

MAT 128	Calculus and Analytic Geometry I	5
MAT 129	Calculus and Analytic Geometry II	4
MAT 220	Linear Algebra	3
MAT 228	Calculus and Analytic Geometry III	4
MAT 229	Differential Equations	3
CHE 141	General Chemistry I	5
PHY 141	Mechanics	4
PHY 142	Electricity and Magnetism	4
PHY 143	Modern Physics	4
CSC 127	Introduction to Computing with Engineering Applications	3

Recommended Engineering Courses

The listing below includes recommended courses for specific fields in engineering sciences.

Aerospace

ENS 201	Engineering Mechanics I (Statics)	3
ENS 203	Engineering Mechanics II (Dynamics)	3

Agricultural, Biological, Civil, and Engineering Mechanics

CHE 142	General Chemistry II	5
ENS 101	Introduction to Engineering and CAD	3
ENS 201	Engineering Mechanics I (Statics)	3
ENS 202	Engineering Mechanics of Solids	3
ENS 203	Engineering Mechanics II (Dynamics)	3

Chemical

CHE 142	General Chemistry II	5
CHE 203	Organic Chemistry I	3
CHE 204	Organic Chemistry Lab I	2
CHE 205	Organic Chemistry II	3
CHE 206	Organic Chemistry Lab II	2

Computer Engineering

MAT 200	Introduction to Discrete Mathematics	3
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(in addition to MAT 229)

Computer Science

MAT 200	Introduction to Discrete Mathematics	3
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(instead of MAT 229)

CSC 123	Computer Science I (C/C++)	4
CSC 125	Computer Science II (C++)	3

Electrical

No additional math or science courses

General and Industrial

ENS 101	Introduction to Engineering and CAD	3
ENS 201	Engineering Mechanics I (Statics)	3
ENS 202	Engineering Mechanics of Solids	3
ENS 203	Engineering Mechanics II (Dynamics)	3

Materials Science

CHE 142	General Chemistry II	5
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Mechanical

ENS 201	Engineering Mechanics I (Statics)	3
ENS 202	Engineering Mechanics of Solids	3
ENS 203	Engineering Mechanics II (Dynamics)	3

Nuclear

ENS 201	Engineering Mechanics I (Statics)	3
ENS 203	Engineering Mechanics II (Dynamics)	3

Non-STEM GECC electives

Select options to meet minimum 60-hour degree requirement.

Humanities or Fine Arts electives	0-9
Social/Behavioral Sciences electives	0-9

One course from Soc/Beh Sci, Hum, or FA must fulfil the non-Western culture requirement.

Total Semester Credit Hours

60