Computer Science and Engineering, BSE

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Computer Science and Engineering, BSE

Course	Title	Hours
Academic Career		
Any Semester		
Students select one of several established focus areas or work with their academic advisor to create a customized plan. Focus areas require at least 17 s.h. in elective courses and one theory elective (3 s.h.). See General Catalog, the Department of Electrical and Computer Engineering website, or an advisor for more information.		
	Hours	**0**
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus [a, b]	4
CHEM:1110	Principles of Chemistry I [a, c]	4
ENGR:1100	Introduction to Engineering Problem Solving [d]	3
ENGR:1300	Introduction to Engineering Computing [a]	3
ENGR:1000	Engineering Success for First-Year Students [d]	1
CSI:1600	Success at Iowa	0
	Hours	**15**
Spring		
RHET:1030	Rhetoric [e]	4
PHYS:1611	Introductory Physics I [a]	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus [a]	4
MATH:2550	Engineering Mathematics III: Matrix Algebra [a]	2
CS:1210	Computer Science I: Fundamentals [e]	4
	Hours	**18**
Second Year		
Fall		
GE: Approved Course Subjects [f]		3
MATH:2560	Engineering Mathematics IV: Differential Equations [a]	3
PHYS:1612	Introductory Physics II [a]	4
ENGR:2120	Electrical Circuits [e]	3
ENGR:2730	Computers in Engineering [a]	3
	Hours	**16**
Spring		
GE: Cultural Perspectives, Values, and Society [g]		3
CS:2210	Discrete Structures [e]	3
CS:2230	Computer Science II: Data Structures [e]	4
ECE:2400	Linear Systems I [a]	3
ECE:2410	Principles of Electronic Instrumentation [a]	4
Focus Area Form: Students should fill out a focus area selection form by the end of their Spring semester. Focus area forms can be updated/changed at anytime. Please see the Electrical and Computer Engineering (ECE) - Undergraduate Focus Area Forms webpage for the link.		
	Hours	**17**
Third Year		
Fall		
GE: Engineering Be Creative [h]		3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences [a]	3
ECE:3320	Introduction to Digital Design [d]	3
ECE:3330	Introduction to Software Design [a]	3
Focus Area: computer science elective [i]		3 - 4
ECE:3000	Electrical and Computer Engineering Professional Seminar [d]	1
	Hours	**16-17**
Spring		
GE: Approved Course Subjects [f]		3
CS:3330	Algorithms [e]	3
CS:3820	Programming Language Concepts [a]	3
ECE:3350	Computer Architecture and Organization [j]	3
ECE:3360	Embedded Systems [a]	3
Focus Area: additional elective [k]		2
	Hours	**17**
Fourth Year		
Fall		
CS:3620	Operating Systems [a]	3
ECE:3540	Communication Networks [d]	3
ECE:4880	Principles of Electrical and Computer Engineering Design [a]	3
Focus Area: ECE elective [l]		3 - 4
Focus Area: additional elective [k]		3
	Hours	**15-16**
Spring		
GE: Approved Course Subjects [f]		3
ECE:4890	Senior Electrical and Computer Engineering Design [a]	3
Focus Area: theory elective [m]		3
Focus Area: advanced computer science elective [i]		3 - 4
Focus Area: Advance ECE Course [l]		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) [n]		
	Hours	**15-16**
	Total Hours	**129-132**

a Typically this course is offered in fall and spring semesters. Check MyUI for course availability since offerings are subject to change.
b Enrollment in math courses requires completion of a placement exam.
c Enrollment in chemistry courses requires completion of a placement exam.
d Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
e Typically this course is offered in fall, spring, and summer sessions. Check MyUI for course availability since offerings are subject to change.
f See General Catalog for list of approved course subjects.
g Students select a course from one of two GE CLAS Core areas: Understanding Cultural Perspectives or Values and Society.
h See General Catalog for list of approved courses. Students who intend to enroll in a Be Creative course with prerequisites must request a waiver by completing the Request Prerequisite Special Permission form on MyUI.
i Students choose two focus area electives from computer science courses not already required for the major. At least one course must be considered advanced for the elective; see General Catalog for criteria. See the Department of Electrical and Computer Engineering website or consult an advisor for more information.
j Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
k Students select additional courses to reach a minimum of 17 s.h. in focus area electives. See General Catalog, the Department of Electrical and Computer Engineering website, or consult an advisor for more information.
l Students choose two focus area electives from electrical and computer engineering courses (prefix ECE) not already required for the major. One must be a course numbered 3400 or above. At least one of the two must be numbered between 5001-5995. Students must consult an academic advisor and gain approval from the undergraduate curriculum chair to count ECE:5998 toward this requirement. See General Catalog, the Department of Electrical and Computer Engineering website, or consult an advisor for more information.
m See General Catalog for list of approved courses. Specific recommendations vary based on focus area.
n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Degree Services.