

# REQUIREMENTS FOR THE BACHELOR OF SCIENCE

## GALLOGLY COLLEGE OF ENGINEERING

### THE UNIVERSITY OF OKLAHOMA

Academic Year
For Students Entering the Oklahoma State System for Higher Education <b>Summer 2025 through Spring 2026</b>

General Requirements	
Minimum Total Credit Hours .....	<b>128</b>
<b>Minimum Retention/Graduation Grade Point Averages:</b>	
Overall - Combined and OU .....	<b>2.00</b>
Major - Combined and OU .....	<b>2.00</b>
Curriculum - Combined and OU .....	<b>2.00</b>

Program
<b>Computer Engineering</b>
<b>B225</b>
Bachelor of Science

OU encourages students to complete at least 32 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

## GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student's major. **Courses graded P/NP will not apply.**

**A grade of C or better is required in each course in the curriculum, including all prerequisite courses.**

## UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

Code	Title	Credit Hours
<b>Core Area I: Symbolic and Oral Communication</b>		
<i>English Composition</i>		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
<i>Language (0-10 hours in the same language)</i>		
This requirement can be met by two years of the same language in high school:		0-10
Beginning Course (0-5 hours)		
Beginning Course, continued (0-5 hours)		
<i>Mathematics</i>		
MATH 1914	Differential and Integral Calculus I (Core I) <sup>1, 2</sup>	4
<b>Core Area II: Natural Science (including one laboratory)</b>		
PHYS 2514	General Physics for Engineering and Science Majors (Core II) <sup>2</sup>	4
CHEM 1315	General Chemistry (Core II-Lab) <sup>2</sup>	5
or CHEM 1335	General Chemistry I: Signature Course	
<b>Core Area III: Social Science</b>		
P SC 1113	American Federal Government	3
Choose one course <sup>3</sup>		3
<b>Core Area IV: Arts &amp; Humanities</b>		
<i>Artistic Forms</i>		
Choose one course <sup>3</sup>		3
<i>Western Culture</i>		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one course (excluding HIST 1483 and HIST 1493) <sup>3</sup>		3
<i>World Culture</i>		
Choose one course <sup>3</sup>		3
<b>Core Area V: First-Year Experience</b>		
ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) <sup>4</sup>	3
<b>Total Credit Hours</b>		<b>40-50</b>

<sup>1</sup> MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

<sup>2</sup> Major support requirements that also satisfy University General Education requirements.

<sup>3</sup> To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

<sup>4</sup> Transfer students will need to meet the requirements of the first-year experience course as well as the engineering transfer course. Please see your advisor for your specific enrollment.

## FREE ELECTIVES

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

**Bachelor of Science in Computer Engineering accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Program Criteria.**

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a **grade of C** or better is required in each course in the curriculum, including all prerequisite courses.

## MAJOR REQUIREMENTS

Code	Title	Credit Hours
<b>Required Courses</b>		
ECE 2214	Digital Design	4
ECE 2713	Digital Signals and Filtering	3
ECE 2723	Electrical Circuits I	3
ECE 2523	Probability, Statistics and Random Processes	3
ECE 3723	Electrical Circuits II	3
ECE 3773	Electrical and Computer Engineering Circuits Laboratory	3
ECE 3813	Introductory Electronics	3
ECE 3223	Microprocessor System Design	3
ECE 3793	Signals and Systems	3
ECE 3873	Electrical and Computer Engineering Electronics Laboratory	3
ECE 4273	Digital Design Laboratory	3
ECE 4613	Computer Architecture	3
ECE 4773	Laboratory (Special Projects)	3
<b>Total Credit Hours</b>		<b>40</b>

## MAJOR SUPPORT REQUIREMENTS

Code	Title	Credit Hours
<b>Math and Science</b>		
MATH 2924	Differential and Integral Calculus II	4
MATH 2934	Differential and Integral Calculus III	4
MATH 3113	Introduction to Ordinary Differential Equations	3
MATH 3333	Linear Algebra I	3
PHYS 2524	General Physics for Engineering and Science Majors	4
<b>Technical Electives</b>		
Choose two ECE/C S 3000-4000-level courses <sup>1</sup>		6
Choose two ECE/C S 4000-level or higher courses <sup>1</sup>		6
<b>Professional Elective</b>		
Choose one course from approved list maintained by the department <sup>1</sup>		2
<b>Additional College Requirements</b>		
ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
C S 1323	Introduction to Computer Programming for Programmers	3
C S 2334	Programming Structures and Abstractions	4
C S 2813	Discrete Structures	3
C S 2414	Data Structures	4
<b>Total Credit Hours</b>		<b>48</b>

<sup>1</sup> Electives to be selected from list available in the ECE Office, DEH-150. **Note:** One of the four technical electives must be an approved ECE course.

More information in the catalog: (<http://ou-public.courseleaf.com/gallogly-engineering/electrical-computer-engineering/computer-engineering-bachelor-science/>).

### SUGGESTED SEMESTER PLAN OF STUDY

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In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses.

Two college-level courses in a single world language are required; this may be satisfied by successful completion of 2 years in a single world language in high school. Students who must take a language at the University will have an additional 6-10 hours of coursework.

Year	FIRST SEMESTER		Hours	SECOND SEMESTER		Hours
FRESHMAN	ENGL 1113	Principles of English Composition ( Core I )	3	ENGL 1213 or EXPO 1213	Principles of English Composition ( Core I ) or Expository Writing	3
	CHEM 1315	General Chemistry ( Core II-Lab ) <sup>1</sup>	5	MATH 2924	Differential and Integral Calculus II <sup>2</sup>	4
	MATH 1914	Differential and Integral Calculus I ( Core I ) <sup>2</sup>	4	PHYS 2514	General Physics for Engineering and Science Majors ( Core II )	4
	HIST 1483 or HIST 1493	United States to 1865 ( Core IV ) or United States, 1865 to the Present	3	C S 1323	Introduction to Computer Programming for Programmers	3
	ENGR 1413	Pathways to Engineering Thinking ( Core V-FYE ) <sup>3</sup>	3			
	CREDIT HOURS		18	CREDIT HOURS		14
SOPHOMORE	MATH 2934	Differential and Integral Calculus III <sup>2</sup>	4	MATH 3113	Introduction to Ordinary Differential Equations	3
	PHYS 2524	General Physics for Engineering and Science Majors	4	C S 2414	Data Structures	4
	C S 2334	Programming Structures and Abstractions	4	C S 2813	Discrete Structures	3
	ECE 2214	Digital Design	4	ECE 2713	Digital Signals and Filtering	3
	P SC 1113	American Federal Government ( Core III )	3	ECE 2723	Electrical Circuits I	3
				ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
	CREDIT HOURS		19	CREDIT HOURS		18
JUNIOR	ECE 2523	Probability, Statistics and Random Processes	3	ECE 3223	Microprocessor System Design	3
	ECE 3723	Electrical Circuits II	3	ECE 3793	Signals and Systems	3
	ECE 3773	Electrical and Computer Engineering Circuits Laboratory	3	ECE 3873	Electrical and Computer Engineering Electronics Laboratory	3
	ECE 3813	Introductory Electronics	3	MATH 3333	Linear Algebra I	3
		Approved Elective, Social Science (Core III-SS) <sup>4</sup>	3		Approved Elective, Artistic Forms (Core IV-AF) <sup>4</sup>	3
	CREDIT HOURS		15	CREDIT HOURS		15
SENIOR	ECE 4273	Digital Design Laboratory	3	ECE 4773	Laboratory (Special Projects)	3
	ECE 4613	Computer Architecture	3		ECE/CS 4000- or higher level Elective <sup>5</sup>	3
		Professional Elective <sup>5</sup>	2		ECE/CS 4000- or higher level Elective <sup>5</sup>	3
		ECE/CS 3000-4000-level Elective <sup>5</sup>	3		ECE/CS 3000-4000-level Elective <sup>5</sup>	3
		Approved Elective, Western Culture (Core IV-WC) <sup>4</sup>	3		Approved Elective, World Culture (Core IV-WDC) <sup>4</sup>	3
	CREDIT HOURS		14	CREDIT HOURS		15

<sup>1</sup> CHEM 1315 can be substituted with CHEM 1335 (Fall only).

<sup>2</sup> MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

<sup>3</sup> Transfer students will need to meet the requirements of the first-year experience course as well as the engineering transfer course. Please see your advisor for your specific enrollment.

<sup>4</sup> To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

<sup>5</sup> Electives to be selected from list available in the ECE Office, DEH-150. **Note:** One of the four electives must be an approved ECE course.

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