REQUIREMENTS FOR THE BACHELOR OF SCIENCE/MASTER OF SCIENCE
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA

Academic Year
For Students Entering the Oklahoma State System for Higher Education **Summer 2024 through Spring 2025**

General Requirements	
Minimum Total Credit Hours	**138-141**
Minimum Retention/Graduation Grade Point Averages:	
Overall - Combined and OU	**3.25**
Major - Combined and OU	**3.25**
Curriculum - Combined and OU	**3.25**

Program
Computer Science
A235/F235 Q146
Bachelor of Science/Master of Science

OU encourages students to complete at least 28 hours of applicable coursework each year to have the opportunity to graduate in 5 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
Core Area I: Symbolic and Oral Communication		
English Composition		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
Language (0-10 hours in the same language)		
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)		
Mathematics (minimum 3 hours)		
MATH 1914	Differential and Integral Calculus I (Core I) [1, 2]	4
Core Area II: Natural Science (minimum 7 hours, including one laboratory)		
Natural Science		
Natural Science Elective [3]		3
Natural Science with lab		
Choose one natural science elective from a different discipline, with lab [3]		4
Core Area III: Social Science		
P SC 1113	American Federal Government	3
Choose one course [4]		3
Core Area IV: Arts & Humanities		
Artistic Forms		
Choose one course [4]		3
Western Culture		
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) [4]		3
World Culture		
Choose one course [4]		3
Core Area V: First-Year Experience		
ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) [5]	3
Total Credit Hours		**38-48**

1 MATH 1823, MATH 2423, and MATH 2433 sequence can be substituted for MATH 1914 and MATH 2924.

2 Major support requirements that also satisfy University General Education requirements.

3 Courses taken to fulfill the Natural Science requirement must be chosen from the University-Wide General Education Approved Course List (Core II). At least one of the Natural Science courses must be a non-Physics course. All science courses must be for science or engineering majors and come from the natural science elective list maintained by the department.

4 To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000).

5 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 Science is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer Science and Similarly Named Computing Programs 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
Required Courses		
Choose one of the following:		1-4
C S 1323	Introduction to Computer Programming for Programmers	
C S 1321	Java for Programmers	
C S 1324	Introduction to Computer Programming for Non-Programmers	
C S 2334	Programming Structures and Abstractions	4
C S 2414	Data Structures	4
C S 2813	Discrete Structures	3
or MATH 2513	Discrete Mathematical Structures	
C S 2614	Computer Organization	4
C S 3323	Principles of Programming Languages	3
C S 3113	Introduction to Operating Systems	3
C S 3203	Software Engineering	3
C S 3823	Theory of Computation	3
C S 5173	Computer Security	3
C S 4413	Algorithm Analysis	3
C S 4513	Database Management Systems	3
C S 4273	Capstone Design Project	3
C S 5473	Parallel, Distributed, and Network Programming	3
C S Electives		
Choose 12 credits of approved C S Science Electives from a list maintained by the department		12
Total Credit Hours		**55-58**

MAJOR SUPPORT REQUIREMENTS

Code	Title	Credit Hours
Math		
MATH 2924	Differential and Integral Calculus II	4
MATH 3333	Linear Algebra I	3
Choose one of the following:		3
ECE 2523	Probability, Statistics and Random Processes	
ISE 3293	Applied Engineering Statistics	
MATH 4743	Introduction to Mathematical Statistics	
MATH 4753	Applied Statistical Methods	
Choose 9 credits of approved technical electives from a list maintained by the department.		9
Additional College Requirements		
ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
Total Credit Hours		**21**

GRADUATE REQUIREMENTS

Up to 12 hours of graduate-level courses (as approved by the department) can be shared/double-counted and fulfill requirements in both the B.S. and M.S. portions of the Accelerated Degree Program.

No more than three courses at the C S G4000 level are permitted. No more than 3 credit hours of C S 5990 **are permitted (students who have the graduate liaison's approval to complete a project option may take 6 hours). No more than 6 credit hours of Special Topics in Computer Science are permitted (even with a change in subject).**

THESIS OPTION

Code	Title	Credit Hours
Core Courses		
C S 4413	Algorithm Analysis (or equivalent as approved by the graduate liaison)	3
C S 4513	Database Management Systems	3
Four courses selected from a list of approved Graduate C S Electives maintained by the School of Computer Science		12
Electives		
Choose six hours of any graduate-level C S classes [1]		6
Thesis		
C S 5980	Research for Master's Thesis	6
Total Credit Hours		**30**

1 Any C S graduate class including MATH 5743, MATH 4753, MATH 4073, or ECE 4000G or higher as approved by the Computer Science graduate liaison. **Other courses outside C S require prior approval of the graduate liaison.**

NON-THESIS OPTION

The non-thesis degree is a coursework-only degree; a non-thesis examination is not required.

Code	Title	Credit Hours
Core Courses		
C S 4413	Algorithm Analysis (or equivalent as approved by the graduate liaison)	3
C S 4513	Database Management Systems	3
Four courses selected from a list of approved Graduate C S Electives maintained by the School of Computer Science		12
Electives		
Choose 15 hours from any graduate-level C S class [1]		15
Total Credit Hours		**33**

1 Any C S graduate class including MATH 5743, MATH 4753, MATH 4073, or ECE4000G or higher as approved by the Computer Science graduate liaison. **Other courses outside C S require prior approval of the graduate liaison.**

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

SUGGESTED SEMESTER PLAN OF STUDY

Bachelor of Science in Computer Science is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Computer Science and Similarly Named Computing Programs 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.

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 language at the University will have an additional 6-10 hours of coursework.

Students may enter the accelerated program based on the undergraduate degree pattern offered in the year they first enrolled in the Oklahoma State System of Higher Education or later.

Students are eligible for graduate status upon graduation with the Bachelor of Science in Computer Science.

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
	MATH 1914	Differential and Integral Calculus I (Core I) [1]	4	MATH 2924	Differential and Integral Calculus II [1]	4
	ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) [2]	3	C S 2334	Programming Structures and Abstractions	4
		Choose one of the following:	1-4		Approved Elective, Natural Science (Core II) [5]	3
	C S 1323	Introduction to Computer Programming for Programmers				
	C S 1321	Java for Programmers				
	C S 1324	Introduction to Computer Programming for Non-Programmers				
		Approved Elective, Artistic Forms (Core IV) [4]	3			
		CREDIT HOURS	**14-17**		**CREDIT HOURS**	**14**
SOPHOMORE	C S 2813 or MATH 2513	Discrete Structures or Discrete Mathematical Structures	3		Approved Elective, Natural Science with Lab (Core II) [5]	4
	P SC 1113	American Federal Government (Core III)	3		Choose one of the following:	3
	C S 2414	Data Structures	4	ECE 2523	Probability, Statistics and Random Processes	
	ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2	ISE 3293	Applied Engineering Statistics	
		Approved Elective, Social Science (Core III) [4]	3	MATH 4743	Introduction to Mathematical Statistics	
				MATH 4753	Applied Statistical Methods	
				C S 2614	Computer Organization	4
				C S 3323	Principles of Programming Languages	3
					Open Elective [3]	0-3
		CREDIT HOURS	**15**		**CREDIT HOURS**	**14-17**
JUNIOR		Approved Technical Elective	3	MATH 3333	Linear Algebra I	3
	C S 3113	Introduction to Operating Systems	3		Approved Technical Electives	6
	C S 3203	Software Engineering	3		Approved Elective, Western Civ. & Culture (Core IV) [4]	3
	C S 3823	Theory of Computation	3		Approved C S Elective [7]	3
		Open Elective [3]	3			
		CREDIT HOURS	**15**		**CREDIT HOURS**	**15**
SENIOR	C S 4413	Algorithm Analysis	3	HIST 1483 or HIST 1493	United States to 1865 (Core IV) or United States, 1865 to the Present	3
	C S 4513	Database Management Systems	3	C S 4273	Capstone Design Project	3
	C S 5173	Computer Security	3	C S 5473	Parallel, Distributed, and Network Programming	3
		Approved C S Elective 7	3		C S G4000/5000 Approved Elective [6,7]	3
		C S G4000/5000 Approved Elective [6,7]	3		Approved Elective, World Culture (Core IV) [4]	3
		CREDIT HOURS	**15**		**CREDIT HOURS**	**15**
FIFTH YEAR		G5000-level Approved Elective [6,7]	3		G5000-level Approved Elective [6,7]	3
		G5000-level Approved Elective [7]	3		G5000-level C S Elective [7,8]	0-9
		G5000-level C S Elective [7,8]	3	C S 5980	Research for Master's Thesis (Thesis option) [7,8]	0-6
		CREDIT HOURS	**9**		**CREDIT HOURS**	**9-12**

1 MATH 1823, MATH 2423, and MATH 2433 sequence can be substituted for MATH 1914 and MATH 2924. MATH 1523 will have to be taken by students who are not ready to start MATH 1823 or MATH 1914.

2 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.

3 Open electives should bring the total number of credits for the Bachelor degree up to 120. Physical education courses cannot be used for open electives.

4 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.

5 All science courses must be for science or engineering majors. Courses must come from a departmentally maintained list.

6 Four electives must be chosen from an approved list maintained by the School of Computer Science.

7 No more than three credit hours of C S 5990 are allowed (students who have graduate liaison's approval to complete a project option may take 6 hours).

8 Thesis option requires a total of six hours of 5000-level electives and six hours of C S 5980. Non-thesis option requires a total of 15 hours of 5000-level electives.

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.

APPROVED ELECTIVES

Code	Title	Credit Hours
C S 4323	Compiler Construction	3
C S 4613	Computer Architecture	3
C S 4973	Special Topics	3
Any C S 5000-level course		