

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

Academic Year	General Requirements	Program
For Students Entering the Oklahoma State System for Higher Education Summer 2024 through Spring 2025	Minimum Total Credit Hours 146-149 Minimum Retention/Graduation Grade Point Averages: Overall - Combined and OU 3.00 Major - Combined and OU 3.00 Curriculum - Combined and OU 3.00	Civil Engineering A190/F190, F191 Bachelor of Science/Master of Science
OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in 5 years.		

Minimum Total Credit Hours: 146-149

Overall GPA - Combined and OU: 3.00

Major GPA - Combined and OU: 3.00

Curriculum GPA - Combined and OU: 3.00

Program Code: A190/F190, F191

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		
<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) ^{1, 2}	4
Core Area II: Natural Science (including one laboratory)		
PHYS 2514	General Physics for Engineering and Science Majors (Core II) ²	4
CHEM 1315	General Chemistry (Core II-Lab) ²	5
or CHEM 1335	General Chemistry I: Signature Course	
Core Area III: Social Science		
P SC 1113	American Federal Government	3
Choose one course ³		3
Core Area IV: Arts & Humanities		
<i>Artistic Forms</i>		
Choose one course ³		3

<i>Western Culture</i>		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
HSTM 3333	Technology and Society in World History (or approved substitute Core IV-Western Culture) ³	3
<i>World Culture</i>		
ANTH 4623	Approaches to Cross-Cultural Human Problems (or approved substitute Core IV-World Culture) ³	3
Core Area V: First-Year Experience		
ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) ⁴	3
Total Credit Hours		40-50

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

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

³ 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.

⁴ 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 Civil Engineering accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Civil 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
Required Courses		
CEES 1000	CEES Seminar (a minimum of four semesters required)	0
CEES 1111	Exploring CEES	1
CEES 2113	Statics	3
CEES 2153	Mechanics of Materials	3
CEES 2213	CADD Fundamentals	3
CEES 2223	Fluid Mechanics	3
CEES 3213	Water Resources Engineering	3
CEES 3243	Water and Wastewater Treatment Design	3
CEES 3263	Introduction to Dynamics for Architectural and Civil Engineers	3
CEES 3361	Soil Mechanics Laboratory	1
CEES 3363	Soil Mechanics	3
CEES 3403	Materials	3
CEES 3413	Structural Analysis I	3
CEES 3663	Structural Design - Steel I (OR Professional Elective) ^{1,2}	3
CEES 3673	Structural Design - Concrete I (OR Professional Elective) ^{1,2}	3
CEES 3883	Transportation Engineering	3
CEES 4253	Statistics and Probability	3
CEES 4453	Geomatics Engineering	3
CEES 4901	Introduction to CE Capstone	1
CEES 4903	Civil Engineering Capstone	3
CEES 4951	Contemporary Topics in Professional Practice	1
Total Credit Hours		52

¹ Students must take either CEES 3663 or CEES 3673 or they may take both courses if desired.

Major Support Requirements

Code	Title	Credit Hours
Math and Science		
MATH 2924	Differential and Integral Calculus II	4
MATH 2934	Differential and Integral Calculus III	4
MATH 3113	Introduction to Ordinary Differential Equations	3
CHEM 1415	General Chemistry (Continued)	5
or CHEM 1435	General Chemistry II: Signature Course	
GEOL 1114	Physical Geology for Science and Engineering Majors ²	4

PHYS 2524	General Physics for Engineering and Science Majors	4
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Professional Electives		
Choose any two 3000-level or higher course in CEES (one three-hour professional elective can be taken outside CEES with advisor approval)		6
Additional College Requirements		
ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
ENGR 3401	Engineering Economics	1
Total Credit Hours		33

² GEOL 1114 can be substituted with BIOL 1134, PBIO 1114, or GEOG 1114.

Graduate Requirements

Shared Hours: Accelerated students may dual count 6-9 hours of coursework with graduate credit between the BS/MS. If less hours are shared, then total hours for the degree will increase.

All elective courses are subject to the following restrictions: one 3000G course outside CEES may be used toward the degree; no more than 9 credits of 4000G courses from CEES, including required core courses, may count toward the master's degree; no more than 12 credits of 4000G courses from all departments, including CEES, may count toward the master's degree; and no more than 9 hours from departments outside CEES may count toward the master's degree.

On-Campus Concentrations:

- Geotechnical Engineering F190 Q282
- Structural Engineering F190 Q634
- Water Resources Engineering F190 Q698

Thesis Option

Code	Title	Credit Hours
Required Courses		
Concentration Core (p.)		9
Writing Requirement		
CEES 5021	Technical Communications	1
Electives Courses		
Choose 15 hours from a list of MSCE electives maintained by the department and approved by the Graduate College.		15
Thesis		
CEES 5980	Research for Master's Thesis	5
Total Credit Hours		30

Non-Thesis Option

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

Code	Title	Credit Hours
Required Courses		
Concentration Core (p.)		9
Elective Courses		

Choose 21 hours from a list of MSCE electives maintained by the department and approved by the Graduate College.	21
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Total Credit Hours	30
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Online Concentrations

- Geotechnical Engineering (Online) F191 Q283
- Structural Engineering (Online) F191 Q635
- Transportation Engineering (Online) F191 Q658
- Water Resources Engineering (Online) F191 Q699

Non-Thesis Option (Online)

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

Code	Title	Credit Hours
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Required Courses

Concentration coursework (p.)	30
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More information in the catalog: (<http://ou-public.courseleaf.com/gallogly-engineering/civil-engineering-environmental-science/civil-engineering-bachelor-science-civil-engineering-master-science/>).

Suggested Semester Plan of Study

Bachelor of Science in Civil Engineering accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Civil 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.

Admission to the accelerated program is by application and requires a minimum major GPA of 3.20 and overall GPA of 3.00. Once admitted, students must maintained an overall GPA of 3.00 during the bachelors. 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 Civil Engineering.

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) ¹	5	CHEM 1415	General Chemistry (Continued) (Core II-Lab) ¹	5
	MATH 1914	Differential and Integral Calculus I (Core I) ²	4	MATH 2924	Differential and Integral Calculus II ²	4
	ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) ³	3	PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
				CEES 1111	Exploring CEES	1
	CREDIT HOURS		15	CREDIT HOURS		17
SOPHOMORE	MATH 2934	Differential and Integral Calculus III ²	4	MATH 3113	Introduction to Ordinary Differential Equations	3
	PHYS 2524	General Physics for Engineering and Science Majors	4	CEES 1000	CEES Seminar ⁴	0
	CEES 1000	CEES Seminar ⁴	0	CEES 2153	Mechanics of Materials	3
	CEES 2213	CADD Fundamentals	3	CEES 2223	Fluid Mechanics	3
	CEES 2113	Statics	3	GEOL 1114	Physical Geology for Science and Engineering Majors (or approved substitute)	4
	ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2	HIST 1483 or HIST 1493	United States to 1865 (Core IV) or United States, 1865 to the Present	3
	CREDIT HOURS		16	CREDIT HOURS		16
JUNIOR	CEES 1000	CEES Seminar ⁴	0	CEES 1000	CEES Seminar ⁴	0
	CEES 3213	Water Resources Engineering	3	CEES 3243	Water and Wastewater Treatment Design	3
	CEES 3263	Introduction to Dynamics for Architectural and Civil Engineers	3	CEES 3403	Materials	3
	CEES 3363	Soil Mechanics	3		Choose one of the following:	3
	CEES 3361	Soil Mechanics Laboratory	1	CEES 3663	Structural Design - Steel I ⁵	
	CEES 3413	Structural Analysis I	3		Professional Elective ⁶	
	HSTM 3333	Technology and Society in World History (Core IV, Western Culture) (or approved substitute)	3	CEES 3883	Transportation Engineering	3
			CEES 4253	Statistics and Probability ¹⁰	3	
	CREDIT HOURS		16	CREDIT HOURS		15
SENIOR	ANTH 4623	Approaches to Cross-Cultural Human Problems (or approved substitute) (Core IV, World Culture)	3	CEES 1000	CEES Seminar ⁴	0
	CEES 1000	CEES Seminar ⁴	0	CEES 4903	Civil Engineering Capstone	3
		Professional Elective ^{6,10}	3		Professional Elective ^{6,10}	3
		Choose one of the following:	3		Approved Elective, Social Science (Core III) ⁷	3
	CEES 3673	Structural Design - Concrete I ⁵			Approved Elective, Artistic Forms (Core IV) ⁷	3
		Professional Elective ^{6,10}		P SC 1113	American Federal Government	3
	CEES 4453	Geomatics Engineering ¹⁰	3			
	CEES 4901	Introduction to CE Capstone	1			
	CEES 4951	Contemporary Topics in Professional Practice	1			
ENGR 3401	Engineering Economics	1				
	CREDIT HOURS		15	CREDIT HOURS		15
FIFTH YEAR		CEES Concentration Course	3		Choose one of the following: ⁸	3-5
		CEES Concentration Course	3	CEES 5980	Research for Master's Thesis	
		CEES Concentration Course	3		Graduate-level Elective or CEES Concentration Course ⁹	
		CEES Graduate-level Elective or CEES Concentration Course ⁹	3		Choose one of the following: ⁸	1-3
				CEES 5021	Technical Communications	
					Graduate-level Elective or CEES Concentration Course ⁹	
				CEES Graduate-level Elective or CEES Concentration Course ^{8,9}	3	
	CREDIT HOURS		12	CREDIT HOURS		9

¹ CHEM 1315 and CHEM 1415 can be substituted with CHEM 1335 (Fall only) and CHEM 1435 (Spring only), respectively.

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

³ 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.

⁴ Students must complete a minimum of four semesters of CEES 1000.

⁵ Students must take at least CEES 3663 or CEES 3673. Students interested in pursuing a graduate degree are encouraged to complete both courses.

⁶ Professional electives can be chosen from any 3000-level or higher course in CEES. One three-hour professional elective can be taken outside CEES with advisor approval.

⁷ 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.

6 Requirements for the Bachelor of Science/Master of Science

- 8 Depending on which concentration students have chosen for the masters, they must choose either on-campus thesis option, on-campus non-thesis option, or online non-thesis option. The on-campus thesis students will take CEES 5021, CEES 5980 (5-credit hours), and one 3-credit hour graduate level elective. The on-campus non-thesis students will take three, 3-credit hour graduate level electives. The online non-thesis students will take three, 3-credit hour required concentration courses.
- 9 Graduate level elective must be chosen from a list of MSCE electives maintained by the department and approved by the Graduate College.
- 10 Shared courses: 6-9 credit hours may count towards both the bachelors and masters degrees. If less hours are shared, total hours for the degree will increase. See concentration requirements for more information on shared course options.

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.

Concentration Requirements

THESIS/NON-THESIS OPTIONS

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

- Geotechnical Engineering F190 Q282

Code	Title	Credit Hours
Core Courses		
CEES 4333	Foundation Engineering	3
CEES 5343	Advanced Soil Mechanics	3
CEES 5433	In-Situ Soil Testing	3
Writing Requirement (thesis students only):		
CEES 5021	Technical Communications	1
Elective Courses		
15 hours for thesis students. 21 hours for non-thesis students. Choose from a list of MSCE electives maintained by the department and approved by the Graduate College. ¹		
Thesis Research (thesis students only)		
5 hours CEES 5980	Research for Master's Thesis	5

¹ CE Accel BS can share (9 hours) CEES 4253, CEES 4333, CEES 4453, CEES 4753 and professional electives as MS electives.

NON-THESIS OPTION (ONLINE)

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

- Geotechnical Engineering (Online) F191 Q283

Code	Title	Credit Hours
Core Courses ¹		
ENGR 4223	Fundamentals of Project Management	3
CEES 5653	Advanced Mechanics of Materials	3
ENGR 4013	Leadership and Management for Engineers	3
CEES 4333	Foundation Engineering	3
CEES 5443	Unsaturated Soil Mechanics	3
CEES 5353	Introduction to Soil Dynamics	3
CEES 5693	Structural Design of Pavements	3
CEES 5323	Geosynthetics	3
CEES 5413	Soil-Structure Interaction	3
CEES 5343	Advanced Soil Mechanics	3

¹ CE Accel. BS can share (6 hours) two professional electives from MS required courses.

THESIS/NON-THESIS OPTIONS

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

- Structural Engineering F190 Q634

Code	Title	Credit Hours
Core Courses		
Take one course from each of the following groups:		
CEES 4663	Introduction to Matrix Methods in Structural Analysis	3
or CEES 5683	Dynamics of Structures	
or CEES 5763	Introduction to Finite Element Method	
or AME 5763	Introduction to the Finite Element Method	
CEES 5653	Advanced Mechanics of Materials	3
or CEES 5663	Structural Analysis II	
CEES 5773	Structural Design--Steel II	3
or CEES 5783	Structural Design--Concrete II	
or CEES 5793	Design of Prestressed Concrete Structures	
Writing Requirement (thesis students only)		
CEES 5021	Technical Communications	1
Elective Courses		
15 hours for the thesis completion track. 21 hours for the non-thesis completion track. Choose from a list of MSCE electives maintained by the department and approved by the Graduate College. ¹		
Thesis Research (thesis students only)		
5 hours of CEES 5980	Research for Master's Thesis	5

¹ CE Accel BS can share (9 hours) CEES 4253, CEES 4333, CEES 4453, CEES 4753 and professional electives as MS electives.

NON-THESIS OPTION (ONLINE)

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

- Structural Engineering (Online) F191 Q635

Code	Title	Credit Hours
Core Courses ¹		
ENGR 4223	Fundamentals of Project Management	3
CEES 5653	Advanced Mechanics of Materials	3
ENGR 4013	Leadership and Management for Engineers	3
CEES 4333	Foundation Engineering	3
CEES 5793	Design of Prestressed Concrete Structures	3
CEES 4753	Structural Design - Wood	3
CEES 5783	Structural Design--Concrete II	3
CEES 5773	Structural Design--Steel II	3
CEES 5413	Soil-Structure Interaction	3
CEES 5683	Dynamics of Structures	3

¹ CE Accel. BS can share (6 hours) two professional electives from MS required courses.

NON-THESIS OPTION (ONLINE)

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

- Transportation Engineering (Online) F191 Q658

Code	Title	Credit Hours
Core Courses ¹		
ENGR 4223	Fundamentals of Project Management	3
CEES 5653	Advanced Mechanics of Materials	3
ENGR 4013	Leadership and Management for Engineers	3
GIS 5013	Fundamentals of Geographic Information Systems	3
CEES 5523	Transportation Asset Management	3
CEES 5503	Highway Engineering	3
CEES 5693	Structural Design of Pavements	3
DSA 5013	Fundamentals of Engineering Statistical Analysis	3
CEES 5513	Traffic Engineering	3
CEES 5533	Multimodal Transportation	3
METR 5633	Hydrometeorology	3
CEES 5583	Water Law	3
CEES 4123	Open Channel Flow	3
CEES 5373	Water Resources Systems Modeling	3
CEES 5843	Hydrology	3
CEES 5963	Water Security	3
	or CEES 5813	Water Treatment, Reuse, and Health Impacts

¹ CE Accel. BS can share (6 hours) two professional elective from MS required courses.

¹ CE Accel. BS can share (6 hours) two professional electives from MS required courses.

THESIS/NON-THESIS OPTIONS

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

• Water Resources Engineering F190 Q698

Code	Title	Credit Hours
Core Courses		
CEES 4123	Open Channel Flow	3
CEES 5843	Hydrology	3
CEES 5853	Groundwater and Seepage	3
Writing Requirement (thesis students only)		
CEES 5021	Technical Communications	1
Elective Courses		
15 hours for thesis students. 21 hours for non-thesis students. Choose from a list of MSCE electives maintained by the department and approved by the Graduate College. ¹		
Thesis Research (thesis students only)		
5 hours CEES 5980	Research for Master's Thesis	5

¹ CE Accel BS can share (9 hours) CEES 4253, CEES 4333, CEES 4453, CEES 4753 and professional electives as MS electives.

NON-THESIS OPTION (ONLINE)

The Non-Thesis degree is a coursework-only degree; a Non-Thesis examination is not required.

• Water Resources Engineering (Online) F191 Q699

Code	Title	Credit Hours
Core Courses ¹		
ENGR 4223	Fundamentals of Project Management	3
CEES 5853	Groundwater and Seepage	3
ENGR 4013	Leadership and Management for Engineers	3
GIS 5013	Fundamentals of Geographic Information Systems	3