# **B.S. in Construction Engineering**





THE CITADEL SCHOOL OF ENGINEERING



**PROGRAM OVERVIEW:** Supportive student-focused, rigorous program providing graduates with quantitative/scientific aptitudes, critical thinking, industry proficiencies, professional business skills, principled leadership, and technical expertise in construction engineering.

**COMPETENCIES, KNOWLEDGE AND SKILLS:** Students obtain comprehensive perspectives of construction engineering and gain purposeful knowledge of scheduling, estimating, safety, contracts, BIM, equipment, construction methods, and project management.

**CURRICULUM SUMMARY:** 1.) Frequent on-site field trips, 2.) engagement with construction industry professionals, 3.) summer Internships to gain real world experience encouraged, 4.) active learning classroom environment, 5.) Fundamentals of Engineering Exam preparation, and 6.) innovative engineering-focused curriculum including:

Theme-based Gen. Ed.	10-courses
Mathematics	Calc. 1, Calc. 2, 1-Math/Science elective
Basic Science	Biology +lab, Physics +lab, 2-Chemistry +labs
Accounting	1-course
Surveying	2-courses, 2-labs
Civil Engineering	8-courses
Construction Engineering	17-courses



**STUDENTS:** Cadets, active duty, veterans, and civilians work together in a uniquely supportive, collaborative, and energetic learning environment to prepare for successful construction engineering careers. Enrollment and photos of student perspectives include:

2019-20	8	graduates
2020-21	8	graduates
2021-22	18	Seniors
	17	Juniors
	16	Sophomores
	20	Freshman







Sam Blumer, C'21

Track and Field



New pole vaulting school record with a jump of 5.00 meters!!



**PROGRAM FACULTY:** 2 highly-qualified faculty lead the construction engineering program, along with a program director, and support from 12-faculty in civil engineering, 2-faculty in engineering leadership & project management, and 1-faculty in mechanical engineering.



Dr. Mostafa Batouli, PMP Assistant Professor Constructability, System-of-Systems, Sustainability, Coastal & Infrastructure Resilience



Dr. Rebekah Burke, PE Assistant Professor High Performing Buildings, Building Materials, Structural Engineering, Sustainable Engineering



Dr. William J. Davis, PE Program Director Field Engineering, Design-Build, Heavy Industrial Construction, Infrastructure PS&E

**ADVISORY BOARD:** 20-member board, meets twice per year, advises faculty on marketing, recruiting, curriculum, student enrichment, equipment/technology needs, enhancements, capital development, scholarships, etc. Mr. Tim Heichelbech, Advisory Board Chair Vice President, Director of Operations, Choate Construction

Mr. Mike Kirk, Advisory Board Vice Chair Senior Vice President, WSP Global Inc.





Citadel Construction Engineering Program: Links to more Information
https://citadel.edu/root/images/school\_of\_engineering/constructionengineering/construction%20engineering%20brochure.pdf
https://sponsored.postandcourier.com/web/citadel/6-reasons-the-citadels-evening-construction-engineeringprogram-may-be-right-for-you/
https://today.citadel.edu/from-alumnus-to-cadet-on-building-a-career-in-construction-engineering/
Contact Dr. William J. Davis, P.E., Program Director for more information: jeff.davis@citadel.edu



# **Bachelor of Science in Construction Engineering**

### **Freshman Year**

Fall Semester		
LDRS 101	First Year Seminar	1
FSEM 101	Freshman Seminar	3
FSWI 101	Linked Composition	3
MATH 131	Analytic Geometry & Calculus I (*MPE)	4
BIO 150	Biology for Engineers	3
BIO 151	Biology for Engineers Lab	1
CIVL 103	Introduction to Civil Engineering	1
Academic Credit Hours		

Spring Semester		
PHYS 221	Physics with Calculus I	3
PHYS 271	Physics with Calculus I Lab	1
RPED 260	Health & Fitness	3
MATH 131	Analytic Geometry & Calculus II	4
CIVL 210	Computer Applications for Civil Engineers	3
CIVL 101	Engineering Drawing	2

#### Academic Credit Hours 16

3

3 3

4

3

3

19

Fall Semester		
Principal Leadership in American Gov.	3	
Gen. Ed Stand Course I	3	
General Chemistry I	3	
General Chemistry I Lab	1	
Math or Science Elective	3	
Surveying I	3	
Surveying I Lab	1	
	er Principal Leadership in American Gov. Gen. Ed Stand Course I General Chemistry I General Chemistry I Lab Math or Science Elective Surveying I Surveying I Lab	

## Sophomore Year

Spring Semester		
COMM 260	Technical Writing & Communication	3
CHEM 152	General Chemistry II	3
CHEM 162	General Chemistry II Laboratory	1
ACCT 205	Intro. to Managerial Accounting	3
CIVL 202	Statics	3
CIVL 208	Geospatial Representation	1
CIVL 239	Geomatics Lab	3
	Academic Credit Hours	17

Academic Credit Hours 17

		Jun	ior `	Year
Fall Semester				Spring
CIVL 304	Mechanics of Materials	3		LDRS
CIVL 314	Engineering Economy	2		
CONE 302	Engr./Constr. Law, Ethics, Safety & Contracts	4		CONE
CONE 311	Resource Estimating	3		CONE
CONE 320	Engineering Materials & Methods (w/ Lab)	3		CONE
CONE 330	Quality Management & Labor Relations	3		CONE

#### Academic Credit Hours 18

		UCII
Fall Semest	er	
CIVL 331	Probability & Statistics for CE/CONE	3
CIVL 412	Engr. Practice & Prof. Licensure	1
CONE 412	Engr. Practice & Prof. Licensure for CONE	1
CONE 410	Project Scheduling	3
CONE 415	Project Management & Engr. Admin.	3
CONE 440	Construction Methods & Temp. Str. Design	3
CONE 481	Construction Capstone Design I	3
	Academic Credit Hours	17

## **Senior Year**

**Spring Semester** 

LDRS 371 Leadership in Organizations

CONE 340 Structural Analysis & Design

CONE 360 Soils & Foundations (w/ Lab)

CONE 312 Advanced Estimating

Gen. Ed. - Stand Course II

CONE 350 Commercial Construction & Engr. Equipment

Spring Semester		
	Gen. Ed Stand Course III	3
CONE 450	Facilities Operations & Maintenance (BIM)	3
CONE 460	Mechanical & Electrical Systems (MEP)	3
CONE 470	Practicum in Construction Engineering (w/Lab)	3
CONE 482	Construction Capstone Design II	3

#### Academic Credit Hours 15

Academic Credit Hours

Gen Ed, Math, Sci, ACCT courses / CIVL courses / CONE courses

6/2021

**Total Academic Credit Hours: 135** 

4