

Construction Science, BS

Bachelor of Science in Construction Science

The Bachelor of Science in Construction Science comprises of a total of 120 credit hours. The curriculum is structured to prepare graduates for professional management and technical positions within the construction industry. Graduates also have the option of obtaining a graduate degree in construction management or business.

The mission of the Construction Science program is to empower students to assume a broad range of professional positions in the construction industry. Graduates will be prepared for employment in planning, estimating, scheduling, coordinating, supervising and managing construction projects. The curriculum structure is designed to provide a well-rounded preparation for entry into the construction business. It is structured to provide students with knowledge of materials, methods, estimating, scheduling, operations, logistics, supervision, management and law. Additional courses required in business, architecture and general education will result in a well-rounded preparation for entry into the field.

Degree Program Requirements

Complete Core Curriculum Listing at <https://catalog.pvamu.edu/universitycorecurriculum/>

Core Curriculum 42 Credit Hours

Communication		6
ENGL 1301	Freshman Composition I	
ENGL 2311	Technical and Business Writing	
Mathematics		3
MATH 1314	College Algebra	
Life and Physical Sciences		6
PHSC 1315	Physical Science I	
PHSC 1317	Physical Science II	
Language, Philosophy, and Culture		3
ARCH 1302	History of Architecture II	
Creative Arts		3
ARCH 1303	Architectural Design I	
American History		6
HIST 1301	United States History I	
HIST 1302	United States History II	
Government/Political Science		6
POSC 2305	American Government	
POSC 2306	Texas Government	
Social and Behavioral Sciences (Select One)		3
Component Area Option One		3
ECON 1301	Fundamentals of Economics in a Global Society	
Component Area Option Two		3
ARCH 1327	Multimedia Digital Application	
Major Requirements		
CONS 3301	Construction Estimating	3
CONS 3353	Managing Construction Operations	3
CONS 3363	Surveying and Soils	3
CONS 4346	Construction Internship	3
CONS 4346	Construction Internship	3
CONS 4360	Construction Labor and Safety	3
CONS 4363	Construction Law and Ethics	3
ARCH 4373	Advanced Computer Aided Design	3
or ARCH 4375	Introduction to Geographical Information Systems	
CONS 4375	Scheduling and Mobilization	3
CONS 4377	Construction Project Controls	3
Select one of the following (Students should enroll in one of the following courses that best fits their career goals.)		3

CONS 4341	Residential Construction	
CONS 4342	Commercial Construction	
CONS 4344	Highway/Heavy Construction	
CONS 4345	Facilities Management	
Architecture Requirements:		
ARCH 1307	Visual Communications	3
ARCH 1315	Computer Aided Design	3
ARCH 2312	Architectural Technology	3
ARCH 3328	Materials and Methods	3
ARCH 3329	Structural Systems I	3
ARCH 3345	Environmental Systems	3
ARCH 3346	Sustainable Building	3
ARCH 4343	Structural Systems II	3
ARCH 4344	CAD Construction Documents and Codes	3
ARCH 4374	Building Information Modeling	3
or CONS 4374	Building Information Modeling	
Other Requirements:		
ACCT 2301	Principles of Accounting	3
BLAW 2301	Legal Environment of Business	3
MGMT 3310	Principles of Management	3
MRKT 3310	Principles of Marketing	3
MATH 2318	Informal Geometry	3
Total Hours		120

Construction Science as a Double Major and a Minor

Due to the increased use of the Design-Build Method for project delivery, the School of Architecture offers students majoring in architecture or engineering, the opportunity to obtain a second baccalaureate degree or a minor in the field of construction science. The hours required for the second baccalaureate degree are an addition to those counted for the first degree and must be completed in accordance with university and School of Architecture requirements.

Requirements for Construction Science as a Second Baccalaureate Degree

A double major in Construction Science can be obtained by architecture majors with completion of the following 30 credit hours.

CONS 3301	Construction Estimating	3
CONS 3353	Managing Construction Operations	3
CONS 3363	Surveying and Soils	3
CONS 4346	Construction Internship	3
CONS 4342	Commercial Construction	3
CONS 4360	Construction Labor and Safety	3
CONS 4363	Construction Law and Ethics	3
CONS 4375	Scheduling and Mobilization	3
CONS 4377	Construction Project Controls	3
MATH 1342	Elementary Statistics	3
Total Hours		30

Bachelor of Science in Architecture, Construction Science Degree Sequence

Core: <https://catalog.pvamu.edu/universitycorecurriculum/> (<https://catalog.pvamu.edu/universitycorecurriculum/>)

Freshman

Fall - Semester 1	Hours	Spring - Semester 2	Hours
ARCH 1307		3 Component Area Option One Core	3
Creative Arts Core		3 ECON 1301	
ARCH 1303		Communication Core	3

Component Area Option Two Core	3	ENGL 2311	
ARCH 1327		Government/Political Science Core	3
Communication Core	3	POSC 2305	
ENGL 1301		ARCH 1315	3
American History Core	3	Mathematics Core	3
HIST 1301		MATH 1314	
Total	15 Total		15

Total Hours: 30

Sophomore

Fall - Semester 1	Hours	Spring - Semester 2	Hours	Summer	Hours
ACCT 2301		3 ARCH 3328		3 CONS 4346	3
Life and Physical Sciences Core		3 Social and Behavioral Science Core		3	
PHSC 1315		Life and Physical Sciences Core		3	
ARCH 2312		3 PHSC 1317			
American History Core		3 BLAW 2301		3	
HIST 1302		Language, Philosophy, and Culture Core		3	
Government/Political Science Core		3 ARCH 1302			
POSC 2306					
Total		15 Total		15 Total	3

Total Hours: 33

Junior

Fall - Semester 1	Hours	Spring - Semester 2	Hours	Summer	Hours
CONS 3301		3 ARCH 4344		3 CONS 4346	3
CONS 4355		3 ARCH 3346		3	
CONS 4360		3 ARCH 4343		3	
ARCH 3329		3 MATH 2318		3	
ARCH 3345		3			
Total		15 Total		12 Total	3

Total Hours: 30

Senior

Fall - Semester 1	Hours	Spring - Semester 2	Hours
CONS Capstone Course		3 CONS 4363	3
CONS 3353		3 CONS 4377	3
MGMT 3310		3 MRKT 3310	3
CONS 4375		3 CONS 3363	3
		CONS 4374	3
Total		12 Total	15

Total Hours: 27

Name	Unit
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Total Semester Credit Hours: 120

Marketable Skills

Marketable skills, as defined by the Texas Higher Education Coordinating Board's 60x30TX Plan (<http://www.60x30tx.com/>), include interpersonal, cognitive, and applied skill areas, are valued by employers, and can be either primary or complementary to a major. Marketable skills are acquired by students through education, including curricular, co-curricular, and extracurricular activities.

BS Construction Science

Degree Skills

1. Creating, updating and managing daily, weekly and monthly schedules on construction projects, including computer applications and resource planning
2. Understanding the components of Preliminary Estimates, Final Estimates and Guaranteed Maximum Price (GMP) and the fundamentals of building costs to include materials, construction feasibility, cost cycles, inflation, operational costs, and life-cycle costs
3. Understanding the principles of surveying and the instruments used
4. Complete computations for topographical surveys, field dimensions and placement of building improvements
5. Understanding operational conditions for projects including selecting, estimating, bidding, scheduling, subcontracting, cost tracking, documentation, bonds, insurance, payments and close out

Concentration Skills

1. Computer skills including knowledge of Building Information Modeling (BIM) used to manage the work of the construction project team
2. Understanding the work needed to initiate the work including equipment, construction methods, and office and field planning

Co-curricular and Extracurricular Skills

1. Understanding of federal and state labor and safety regulations used in the construction industry; completion of CPR and OSHA 30-hour training to obtain certification
2. Understanding the purchasing and delivery of construction materials for the project. Use of plans and specifications to complete orders and execute procurement contracts