Tuskegee University
Robert R. Taylor School of Architecture and Construction Science
Four Year Construction Science Curriculum
Effective Fall 2025 (*Rev. March 2025)

Student | **Year Declared Construction Science and Management Major 2025** | ID No.

Advisor Signature | Department Head Signature

FIRST YEAR

Course	Cr.	Date Comp.	Grade	Course	Cr.	Date Comp.	Grade
CSMT 101: Intro to Const. I	3			CSMT 102: Intro. to Const. II	3		
ENGL 101: Composition I -	3			ENGL 102: Composition II	3		
MATH 107: Coll. Alg. & Trig I	4			MATH 108: Coll. Alg. & Trig II	4		
PHED: Physical Education	1			PHED: Physical Education	1		
HISTORY 103: World Civ. I	3			CSCI 100: Intro to Computer Concepts and Applications	3		
Univ. 100: Freshman Orientation	1			Univ. 101:Freshman Orientation	1		
				Elective: Fine/Performing Arts	2		
Total	**15**			**Total**	**17**		

SECOND YEAR

Course	Cr.	Date Comp.	Grade	Course	Cr.	Date Comp.	Grade
CSMT 331: Materials & Structures Residential Construction	3			CSMT 332: Materials & Structures Industrial/Commercial Construction	3		
CSMT 341: Env. Con. Sys. I	3			CSMT 342: Env. Con. Sys. II	3		
CSMT 441: Cost & Estimating	3			CSMT 401: Scheduling	3		
PHYS 301: General Physics	3			CSMT 347: Computer Applications in Construction	3		
PHYS 303 : Phys. Lab	1			PHYS 302: General Physics II	3		
MATH 207 or 227: Calculus	4			PHYS 304: Phys. Lab II	1		
				EPE (English Proficiency			
Total	**17**			**Total**	**16**		

THIRD YEAR

Course	Cr.	Date Comp.	Grade		Cr.	Date Comp.	Grade
CSMT 348: Const. Methods	3			**CSMT 360**: Construction Finance & Accounting	3		
ECON 201: Prin. of Economics I	3			CSMT 402: Advanced Const.	3		
BUSN 211: Accounting	3			Elective: 500 - Co-op I or CSMT Elective or General Elective	3		
CSMT 442: Project Controls	3			Elective: 501 - Co-op II or CSMT Elective or General Elective	3		
CSMT 350: Green Building Design and Construction	3			Elective: 502 - Co-op III or CSMT Elective or General Elective	3		
BUSN 331: Prin. of Mgmt.	3						
Total	**18**			**Total**	**15**		

FOURTH YEAR

Course	Cr.	Date Comp.	Grade	Course	Cr.	Date Comp.	Grade
ENGL 203/201/204: Technical Writing	3			Elective: Humanities/SocSci	3		
CSMT 431: Const. Management I	3			CSMT 432: Const. Management II	3		
CSMT 352: Const. Safety	3			CSMT 345: Construction Layout and Surveying	3		
BUSN: 248 Business Ethics	3			CSMT 480: Construction Capstone	3		
BUSN 452: Business Law	3			BUSN 342: Org. Behavior	3		
Total	**15**			**Total**	**15**		

CSM Program Required Credits- 128 Semester Hours **128** **Planned/Earned Credit Hours** **June 13, 2025**

CUM GPA

Construction Electives

CSMT 361 - AL RESIDENTIAL HOME BUILDING	3
CSMT 443 - ROADS & BRIDGES	3
CSMT 500 - CO-OP I	3
CSMT 501 - CO-OP II	3
CSMT 502 - CO-OP III	3

Course Catalog Descriptions

Freshman level

CSMT 0101. INTRODUCTION TO CONSTRUCTION I. 1st Semester. Lect. 3, 3 credits. Orientation to the residential, commercial, industrial, institutional, and transportation sectors of the construction industry and the role of the construction manager; familiarization with construction vocabulary and introduction to planning, scheduling, estimating, safety, and ethics in construction.

CSMT 0102. INTRODUCTION TO CONSTRUCTION II. 2nd Semester. Lect. 3, 3 credits. Focus on the reading of construction documents and the introduction of the estimating process and the terminologies involved in the industry through quantitative takeoff and survey of materials and productivity standards for construction projects via the interpretation of working drawings and specifications. Prerequisite: CSMT 0101.

Sophomore level

CSMT 0331. MATERIALS AND STRUCTURES IN RESIDENTIAL CONSTRUCTION I. 1st Semester. Lect. 3, Lab 1, 3 credits. This course is the first in a two-course sequence that covers the materials, structural principles, and methods of residential construction with an emphasis on wood and masonry. A historical overview of these materials used in residential construction is provided. Their role in sustainable design & construction is presented, including embodied energy, green building materials, and processes. An understanding of structural principles is gained via hands-on lab activities. Prerequisite: CSMT 0101, CSMT 0102

CSMT 0332. MATERIALS AND STRUCTURES IN COMMERCIAL / INDUSTRIAL CONSTRUCTION II. 2nd Semester. Lect. 3, 3 credits. This course is the Second in a two-course sequence that covers the materials, structural principles, and methods of non-residential construction, with an emphasis on steel and reinforced concrete. A historical overview of the material used in non-residential construction is provided. Their role in sustainable design & construction is presented, including embodied energy, green building materials, and processes. An understanding of structural principles is gained via hands-on lab activities. Prerequisite: CSMT 0331.

CSMT 0341. ENVIRONMENTAL CONTROL SYSTEMS I. 1st Semester. Lect. 3, 3 credits. This course, the first of a two-course sequence, covers thermal control systems, water and waste systems, and fire protection systems. A historical overview of these systems is provided. They are presented in a context of sustainable design with an emphasis on hybrid active/passive design strategies. Prerequisite: CSMT 0101 and CSMT 0102.

CSMT 0342. ENVIRONMENTAL CONTROL SYSTEMS II. 2nd Semester. Lect. 3, 3 credits. This course, the second in a two-course sequence, covers electricity, illumination, signal systems, transportation, and acoustics. A historical overview of these systems is provided. They are presented in a context of sustainable design with an emphasis on hybrid active/passive design strategies. This two-course sequence concludes with an overview of integrating environmental control systems into the building. Prerequisite: CSMT 0341.

CSMT 0346. COMPUTER APPLICATIONS IN CONSTRUCTION. 2nd Semester. Lect. 3, 3 credits. This course offers a practical introduction to computer applications used in construction management, with a focus on digital tools that help manage and improve every project phase. Students will explore how technology supports more efficient and effective project delivery, from planning and design to construction, documentation, and operation. Prerequisite: CSMT 0101 and CSMT 0102.

CSMT 0401. SCHEDULING 2nd Semester. Lect. 3, 3 credits. This course provides an overview of the theory and application of construction scheduling, focusing on the control of acquisition, movement, storage, and utilization of workers, materials, and equipment, with an emphasis on the Critical Path Method (CPM). Prerequisites: CSMT 0102.

CSMT 0441. COST AND ESTIMATING 1st Semester. Lect. 3, 3 credits. This course approximates, details, and estimates the cost of construction projects, including earthwork, foundations, concrete, masonry, steel, mechanical installation, electrical installations, and all other items in the construction of buildings. The development of costs encompasses materials, equipment, labor, overhead, profit, taxes, and all other essential items. Prerequisites: CSMT 0102.

Junior Level

CSMT 0348. CONSTRUCTION METHODS. 2nd Semester. Lect. 3, 3 credits. This course discusses the processes, techniques, and characteristics of tools and equipment, as well as labor-saving devices and methods used in the building construction industry. Prerequisites: CSMT 0331 and CSMT 0332.

CSMT 350: GREEN BUILDING DESIGN AND CONSTRUCTION. 1st Semester Lect. 3, 3 Credits. Introduction to the emerging trends in green building, sustainable design, and construction, and an overview of the Leadership in Energy and Environmental (LEED©) Green Building Rating System. Prerequisites: CSMT 341, CSMT 342

CSMT 0360. CONSTRUCTION FINANCE & ACCOUNTING. 1st, 2nd, and Summer Semester. Lect. 3, 3 credits. This course provides an overview of financial and managerial construction accounting concepts, aiming to provide a basic understanding of how financial data is utilized for internal cost control, planning, and budgeting. Fundamental financial calculations associated with the time value of money, debt instruments, taxes, inflation, and cash flow estimates are emphasized with the aid of MS Excel software. Prerequisites: BUSN 211.

CSMT 0402. ADVANCE CONSTRUCTION. 2nd Semester Lect. 3, 3 credits. This course approaches construction productivity by introducing Building Information Modeling (BIM) and other computer-based control management software for use in pre-construction services, planning, and project development. Prerequisite: CSMT 0401.

CSMT 0442. PROJECT CONTROLS. 1st Semester. Lect. 3, 3 credits. This course examines the fundamental principles and practical applications of project controls in construction management. It focuses on areas such as planning, scheduling, budgeting, cost control, resource management, and performance tracking across all stages of the project. Through real-world case studies and interactive exercises, students will gain hands-on experience applying these methods to support better decision-making and improve overall project success. Prerequisite: CSMT 0401 and CSMT 0441.

Senior Level

CSMT 0345. SURVEYING AND LAYOUTS. 2nd Semester. Lab 3, 3 credits. Fundamental principles of surveying; use of transit and level; measurement of distances and angles; differential leveling; layout of building and establishment of lines and levels thereof. Planning and development of building sites. Prerequisites: MATH 0107, 0108, and CSMT 0102.

CSMT 0352. CONSTRUCTION SAFETY. 1st Semester. Lect. 3, 3 credits. Topics to be discussed include OSHA regulations, safety procedures and programs, protection of craftsmen and the public, and safe use of equipment and tools. Prerequisites: CSMT 0331, CSMT 0332, and CSMT 0348.

CSMT 0431. CONSTRUCTION MANAGEMENT I. 1st Semester. Lect. 3, 3 credits. This course will cover topics related to corporate (home office) construction project management, including organizational structure, leadership versus management, risks, legal issues, and an introduction to the Project Management Institute's Body of Knowledge (PMBOK). Prerequisites: CSMT 348, CSMT 401, CSMT 441, and CSMT 442

CSMT 0432. CONSTRUCTION MANAGEMENT II. 2nd Semester. Lect. 3, 3 credits. This course will cover topics related to site (field) construction project management, such as project delivery, document control and communications, quality control, and assurance. Prerequisites: CSMT 348, CSMT 401, CSMT 431, and CSMT 441

CSMT 0480. CONSTRUCTION MANAGEMENT CAPSTONE. 2nd Semester. Lect. 3, 3 credits. In this course, a project presentation is created to demonstrate skills in estimating, scheduling, blueprint reading, teamwork, oral and written communication, management principles, and the use of contracts/documents to address construction-related problems provided by the industry. Prerequisite: CSMT 401, CSMT 431, CSMT 441, and CSMT 442.

Electives

CSMT 0361. ALABAMA RESIDENTIAL HOME BUILDING. 2nd Semester. Lect. 3, 3 credits. This course provides an overview of the residential homebuilding process with a focus on Alabama-specific codes, permitting, and construction practices. Students will explore key phases of construction from land development to final inspections. Additionally, students will acquire practical skills in reading blueprints, estimating, scheduling, adhering to business law and ethics, and coordinating projects. Emphasis is placed on hands-on learning, sustainability, and jobsite safety, preparing students to effectively contribute to or manage residential construction projects across the state. Additionally, the course will help prepare students for the Alabama Home Builders licensing exam. Prerequisites: CSMT 348, CSMT 401, and CSMT 441

CSMT 0443. ROADS AND BRIDGES. 1st Semester. Lect. 3, 3 credits. The course introduces students to the basic stages of constructing several types of bridges and roads. The basic knowledge of building bridges is presented structurally for each type. The topic of building roads is introduced at the introductory level, beginning with an understanding of soils, aggregates, compaction, hot bituminous asphalt, and concrete. New and upcoming construction methods and materials are presented. Innovation and research into better construction materials for roads and bridges are encouraged during the course. Prerequisites: CSMT 0331, CSMT 0332, and CSMT 0348.

CSMT 0500/0501/0502. CONSTRUCTION MANAGEMENT CO-OP ELECTIVE(S). 1st, 2nd, Summer Semester. Co-op. 3, 3 credits. The construction industry offers a pre-approved co-op assignment that involves planned and supervised work experiences, fostering professional and technical growth. Students may use up to 9 credit hours of available elective curriculum credits to apply towards a co-op assignment. Prerequisite: Junior Status, CSM Internship/Co-op Agreement, Registration with Career Development Office.