Building Construction Science

Program Director: George Ford, P.E., EdD
Office 132 Howell Building

The Building Construction Science degree program is a four year Bachelor of Science degree designed to prepare graduates for careers in construction or construction-related fields. The 124 credit hour program is an interdisciplinary curriculum that builds upon expertise existing within the School of Architecture and the College of Engineering and the College of Business as well as the building construction industry to provide a knowledge base in business, engineering, and construction sciences. The curriculum’s foundational areas are based on a problem-and inquiry-based learning. Through the four year studio curriculum, students learn by applying skills and knowledge to complex construction problems that integrate multiple subject areas. The studio-based teaching focuses on the use of case studies and integration of multiple subject areas. This integration of a broader scope of architectural, engineering, construction, and business practices is a different approach than a traditional construction technology curriculum that separates subject areas into distinct courses.

The Building Construction Science curriculum includes a general education foundation of mathematics, science, business, and construction specific courses: construction systems, building technology, structures, and materials and methods of construction and incorporates these and other areas such as estimating, scheduling, safety, project management, and construction law into the studio curriculum. Course development is built upon the strengths of the three colleges that are collaborating in the effort. Building Construction Science students collaborate with architecture, engineering, and interior design students as a regular part of their course work. The Building Construction Science program is accredited by the American Council for Construction Education (ACCE).

Admissions

Admission to the Building Construction Science degree program is limited and competitive. Prospective students are encouraged to tour the program’s facilities to be introduced to the program and talk with students and faculty. Instructions and contact information can be found at www.caad.msstate.edu/bcs/scheduleavisit.php.

Application Process:
1. Apply to Mississippi State University.
2. Submit all required materials including high school and/or college/university transcripts and ACT and/or SAT scores (see note below regarding admission requirement of MA 1313 College Algebra and MA 1323 Trigonometry or equivalent).
3. Indicate your choice of major as “Building Construction Science.”

Grades

A minimum 2.0 MSU GPA is required to be eligible to enroll in BCS studio courses (BCS 1116, BCS 1126, BCS 2116, BCS 2226, BCS 3116, BCS 3126, BCS 4116, BCS 4126). Only courses taken at MSU will raise or lower the cumulative MSU GPA.

Student Fees

Additional course fees are charged for BCS construction studios and other major core courses and are collected with the MSU tuition. Fees are also charged for field trip expenses that occur in specific construction studio courses. Field trip fees are non-refundable after the 6th day of classes.

Computer Requirement

The BCS program requires all students to purchase a laptop computer with related software and peripherals when they enter the studio course sequence. Computer hardware and software specifications are available on the BCS program web site.

Degree Requirements

English Composition

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
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<tbody>
<tr>
<td>EN 1103</td>
<td>English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>or EN 1104</td>
<td>Expanded English Composition I</td>
<td></td>
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<tr>
<td>EN 1113</td>
<td>English Composition II</td>
<td>3</td>
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<tr>
<td>or EN 1173</td>
<td>Accelerated Composition II</td>
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Mathematics

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<tbody>
<tr>
<td>MA 1613</td>
<td>Calculus for Business and Life Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>ST 2113</td>
<td>Introduction to Statistics</td>
<td>3</td>
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Science

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
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<tr>
<td>PH 1113</td>
<td>General Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PH 1123</td>
<td>General Physics II</td>
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</tbody>
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### Humanities
- See General Education courses

### Fine Arts
- ARC 1013 Architectural Appreciation 3

### Social Sciences
- EC 2113 Principles of Macroeconomics 3
- EC 2123 Principles of Microeconomics 3

### Major Core
- CE 2213 Surveying 3
- BCS 2313 Virtual Design and Construction 3
- BCS 3723 Active Building Systems 3
- BCS 3904 Structures I 4
- BCS 3914 Structures II 4
- BCS 1116 Building Construction Studio A 6
- BCS 1126 Building Construction Studio B 6
- BCS 2116 Building Construction Studio 1 6
- or BCS 3006 Construction Internship/Co-Op 6
- BCS 2226 Building Construction Studio 2 6
- BCS 3116 Building Construction Studio 3 6
- BCS 3126 Building Construction Studio 4 6
- or BCS 3006 Construction Internship/Co-Op 6
- BCS 4116 Building Construction Studio 5 6
- BCS 4126 Building Construction Studio 6 6
- BCS 3213 Mechanical and Electrical Systems 3
- BCS 3323 High Performance Construction 3
- BCS 4222 Professional Communication and Practice 2
- ACC 2013 Principles of Financial Accounting 3
- ACC 2023 Principles of Managerial Accounting 3
- BL 2413 The Legal Environment of Business 3
- MGT 3113 Principles of Management 3

### Electives
- 3

### Computer Literacy Requirement
- Satisfied by successful completion of the BCS studio courses

### Oral Communication Requirement
- Satisfied by successful completion of the BCS studio courses

### Writing Requirement
- Satisfied by successful completion of the BCS studio courses

### Total Hours
- 124

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1. Following are prerequisites for courses that students are recommended to take during the first semester of the BCS program. Please note that BCS 1116, MA 1613, and PH 1113 are prerequisites for other courses in the BCS program.
   - BCS 1116 Building Construction Studio A - Prerequisites: MA 1323 or an ACT Math subscore of at least 24
   - MA 1613 Calculus for Business and Life Sciences I - Prerequisite: Grade of C or better in MA 1313 or an ACT Math subscore of at least 24
   - PH 1113 General Physics I - Prerequisite: MA 1323 or an ACT Math subscore of at least 26
   - Students may receive credit for MA 1313 College Algebra by completing the College Level Examination Program (CLEP) test.
   - Students may also receive credit for MA 1313 College Algebra and/or MA 1323 Trigonometry by completing the course at another university or community college. Students are responsible for confirming transfer course equivalents in advance using the MSU Transfer Course Equivalent webpage [https://www.registrar.msstate.edu/students/transfer-course-information/](https://www.registrar.msstate.edu/students/transfer-course-information/)
   - Students should refer to the Undergraduate Student Catalog for prerequisites for other courses.

2. BCS 3006 can only be taken once.