Building Construction Science

Interim Program Head: David C. Lewis
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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 Colleges of Engineering and Business and 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 andragogy. 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 puts a focus on the use of case studies, precedents, 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 andragogy 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, materials and methods of construction, estimating, scheduling, safety, project management, and construction law. Course development is built upon the strengths of the three colleges that are collaborating in the effort. Many colleges involve hands-on making using both materials and material constructions. Building Construction Science students collaborate with architecture, engineering, and interior design students as a regular part of their course work. The Building Construction Science curriculum has been designed to meet the criteria established by the American Council for Construction Education (ACCE) and program accreditation is being pursued.

Foundation Courses Review

All BCS students automatically participate in a Foundations Courses Review after completing BCS 1126 with a grade of "C" or above. The review is a faculty evaluation of course grades and associated student work from construction studios BCS 1116 and BCS 1126 and all completed MSU and transfer coursework. Only students who pass the Foundations Courses Review may continue in the BCS studio sequence. Students may not continue in the BCS major if they have been denied twice. The Foundation Courses Review is competitive and is subject to the limits of resources and studio space.

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.

Grades

Once accepted in to the BCS program, students are required to maintain a cumulative 2.0 MSU GPA. Only courses taken at MSU will raise or lower the MSU average.

General Education Requirements

English Composition		
EN 1103	English Composition I	3
or EN 1163	Accelerated Composition I	
EN 1113	English Composition II	3
or EN 1173	Accelerated Composition II	
Mathematics [1]		
MA 1613	Calculus for Business and Life Sciences I	3
ST 2113	Introduction to Statistics	3
Science		
PH 1113	General Physics I	3
PH 1123	General Physics II	3
BCS 2713	Passive Building Systems	3
Humanities		
See General Education courses		6
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
ID 3363	3/D CAD/Modeling	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
BCS 2226	Building Construction Studio 2	6
BCS 3116	Building Construction Studio 3	6
BCS 3126	Building Construction Studio 4	6
BCS 4116	Building Construction Studio 5	6
BCS 4126	Building Construction Studio 6	6
BCS 3213	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
Electives		6
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

1 MA 1313 College Algebra and MA 1323 Trigonometry should be completed prior to beginning studies in the BCS program. Students with 24 or higher on the math portion of the ACT are excused from MA 1313. Students may also take the College Level Exam (CLEP) to place out of MA 1313. Students with a grade of "B" or better in a full semester of high school trigonometry may be excused from MA 1323. College Algebra and Trigonometry may also be taken at a community college or another university. Incoming freshmen and transfer students should be aware that demonstrated proficiency in algebra and trigonometry is required prior to enrolling in PH 1113.