

## Building Construction Management–BCM

- 415 Cost Estimating and Analysis**  
Fall, 3(2-2) P:M: (BCM 315 and BCM 385)  
SA: BCM 324 C: BCM 411 concurrently.  
Estimation of construction project costs: direct and indirect, labor, material, and equipment. Overhead and profit. Bidding. Computer-based estimating.
- 423 Construction Project Management**  
Fall, Spring, 3(3-0) P:M: (BCM 411 or concurrently and BCM 415 or concurrently) R:  
Open only to seniors in the Building Construction Management or Civil Engineering major.  
Construction management principles and practices. Project planning and controls.
- 435 Residential Building Projects (W)**  
Fall, Spring, 3(1-4) P:M: (ACC 230 and BCM 423 or concurrently and BCM 328 and BCM 353 or concurrently) and completion of Tier I writing requirement. R: Open only to seniors in the Building Construction Management major.  
Development of a residential project and business plan.
- 436 Commercial Building Projects (W)**  
Fall, Spring, 3(1-4) P:M: (ACC 230 and BCM 423 or concurrently and BCM 328 and BCM 353 or concurrently) and completion of Tier I writing requirement. R: Open only to seniors in the Building Construction Management major.  
Evaluation, procurement and management of commercial building projects.
- 490 Independent Study**  
Fall, Spring, Summer, 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to Building Construction Management majors. Approval of department; application required.  
Special problems in acquisition and development of residential land, design, construction technology, building materials, finance, marketing, construction management, or land use codes and regulations.
- 491 Special Topics in Building Construction Management**  
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. P:M: (BCM 210) R:  
Open only to Building Construction Management majors. Approval of department.  
Topics such as computer methods in building construction management, construction technology, solar energy, special land use codes or new technology management.
- 810 Construction Systems**  
Fall, Spring, 1(1-0) Not open to students with credit in BCM 124 or BCM 210.  
Introduction to construction materials and methods in the U.S. with emphasis on steel and wood construction.
- 811 Advanced Project Scheduling**  
Fall of odd years, 3(2-2)  
Critical path analysis for effective and logical scheduling of construction projects. Identification of project activities and their relationships. Schedule development, analysis, and updating. Relationship of project costs and resources to the schedule. Effective communication of schedule information.

- 817 Construction Management Information Systems**  
Spring, 3(2-2) R: Approval of department; application required.  
Information generation and utilization for the management of construction projects. Integration of construction management software, conceptual modeling and knowledge-based models.
- 822 Legal Issues in Construction**  
Spring, 3(3-0) P:NM: (BCM 422 or BCM 385) RB: A degree or experience in civil engineering, human environment and design, interior design, architecture, urban planning, landscape architecture or law.  
Application of Michigan and Federal case law to construction and development claims and litigation.
- 823 Advanced Construction Project Management**  
Fall, Spring, 3(3-0) P:NM: (BCM 411 and BCM 415) R: Open only to graduate students in Building Construction Management.  
Project management issues, services and documentation. Bidding, cost accounting, scheduling. Project planning and controlling.
- 890 Special Problems**  
Fall, Spring, Summer, 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources. Approval of department; application required.  
Individual study in land acquisition and development, design, construction, management, finance, marketing, and structural analysis.
- 891 Advanced Topics in Building Construction Management**  
Fall, Spring, Summer, 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources. Approval of department.  
Advanced topics in building construction management.
- 892 Construction Management Research Seminar**  
Fall, 2(2-0) R: Open only to graduate students in the College of Agriculture and Natural Resources or College of Engineering, or College of Human Ecology.  
Current areas and topics of research in construction management. Resources of research results, analysis of existing research and development of preliminary proposal.
- 898 Master's Research**  
Fall, Spring, Summer, 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to master's students in the Building Construction Management major.  
Masters degree Plan B research paper.
- 899 Master's Thesis Research**  
Fall, Spring, Summer, 1 to 10 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to graduate students in Building Construction Management.  
Master's thesis research.

## BUSINESS

## BUS

### The Eli Broad College of Business and The Eli Broad Graduate School of Management

- 309 Business Information Systems and Technology**  
Fall, Spring, Summer, 3(3-0) P:M: (CSE 101 or concurrently) R: Open only to juniors or seniors in the College of Business.  
Role of information technology in shaping and supporting business processes in a global marketplace. Effects on organizations and individuals.

## CELL AND MOLECULAR BIOLOGY

## CMB

### College of Natural Science

- 800 Cell and Molecular Biology Seminar**  
Fall, Spring, 1(1-0) A student may earn a maximum of 5 credits in all enrollments for this course. R: Open only to students in the Cell and Molecular Biology major.  
Current literature in such areas of cell and molecular biology as gene expression, intracellular transport, cell signalling, regulation of cell growth and cell structure.
- 880 Laboratory Rotation**  
Fall, Spring, Summer, 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to students in the Cell and Molecular Biology major.  
Participation in research projects in laboratories of Cell and Molecular Biology faculty.
- 892 Research Forum**  
Fall, 1(1-0) A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to students in the Cell and Molecular Biology major.  
Advanced graduate students present their laboratory research.
- 999 Doctoral Dissertation Research**  
Fall, Spring, Summer, 1 to 6 credits. A student may earn a maximum of 60 credits in all enrollments for this course. R: Open only to students in the Cell and Molecular Biology major.  
Doctoral dissertation research.