CONSTRUCTION MANAGEMENT PROGRAM

School of Planning, Design and Construction
College of Agriculture and Natural Resources

101 Principles of Construction Management
Fall, Spring. 2(2-0) R: Not open to seniors.
SA: BCM 101
Historical developments, current issues and trends in commercial and residential construction industries.

124 Residential Construction Materials and Methods
Fall, Spring. 3(3-0) P: CMP 101 or concurrently R: Not open to seniors. SA: BCM 124
Properties of construction materials and their application in residential construction.

210 Commercial Construction Methods
Spring. 3(3-0) P: CMP 124 R: Open to freshmen or sophomores or juniors in the Construction Management Major or approval of school. SA: BCM 210
Commercial construction: principles, materials, and assemblies.

222 Statics and Strengths of Materials
Spring. 3(3-0) P: (CMP 210 and CMP 124) and (MTH 124 or MTH 132 or LB 118) and (PHY 183 or PHY 231 or PHY 231C) R: Not open to seniors. SA: BCM 222
Not open to students with credit in CE 221.

230 Utility Systems
Spring. 4(4-0) P: (CMP 210 and CMP 124) and (MTH 124 or MTH 132 or LB 118) and (PHY 183 or PHY 231 or PHY 231C) R: Not open to seniors. SA: BCM 230
Design and analysis of utility and environmental systems in residential and commercial construction with a focus on mechanical, electrical, and plumbing systems.

245 Principles of Green Building
Spring. 3(3-0) P: CMP 210 and (CMP 230 or concurrently) and CMP 124 R: Not open to seniors.
Origins of green building in the U.S. Codes, regulations, and standards governing green building practice. The whole building concept and airflow, thermal, and moisture movement in buildings. Sustainable building systems and modern green construction practices.

305 Site Construction and Measurement
Spring. 3(2-2) P: CMP 210 R: Open to juniors or seniors in the Construction Management Major. SA: BCM 305
Site construction methods, materials and equipment for soils, foundations, foundation types, erosion and storm water control. Site layout, leveling, elevations, and underground utilities.

311 Construction Project Scheduling
Spring. 3(2-2) P: (STT 200 or STT 201 or STT 315 or STT 421) and (CMP 305 and CMP 322) R: Open to juniors or seniors in the Construction Management Major or in the Civil Engineering Major or approval of school. SA: BCM 411, CMP 411
Basic construction project scheduling procedures. Work breakdown structure, critical path method, and scheduling logic. Activity durations, status reports, resource allocation, and control.

315 Construction Quantity Surveying
Spring. 3(2-2) P: CMP 305 and CMP 322 R: Open to juniors or seniors in the Construction Management Major or in the Civil Engineering Major or approval of school. SA: BCM 315

322 Structural Systems
Spring. 3(3-0) P: CMP 222 or CE 221 or ME 222 R: Open to juniors or seniors in the Construction Management Major or in the Civil Engineering Major or approval of school. SA: BCM 322
Structural design using wood, steel and concrete. Beams, columns, footings, and foundation walls. Loading, soils.

325 Real Estate Principles and Construction Finance
Spring. 4(4-0) P: EC 201 or EC 202 or EC 251H or EC 252H R: Open to juniors or seniors in the Construction Management Major or approval of department. SA: BCM 325
Financial methods and instruments utilized in construction, rehabilitation, development, and purchase of real estate. Terms, contracts, valuation, brokerage, taxation, risk, and interest rate analysis.

328 Construction Presentation Graphics and Building Information Modeling
Spring. 4(4-0) P: 4(4-0) P: EC 201 or EC 202 or EC 251H or EC 252H R: Open to juniors or seniors in the Construction Management Major or approval of department. SA: BCM 328
Graphic communication methods used in construction organizations. Use of Building Information Modeling software.

385 Construction Documents and Contracts (W)
Spring. 3(3-0) P: (CMP 305) and completion of Tier I writing requirement R: Open to juniors or seniors in the Construction Management Major or in the Civil Engineering Major and open to juniors or seniors in the Interior Design Major or in the Bachelor of Landscape Architecture or approval of department. SA: BCM 385
Construction contracts for commercial and residential projects. Contract procedures, bidding, changes, substitutions, specifications, insurance, bonding, claims, disputes, and payments. Responsibilities of owners and contractors.

401 Construction Safety Management
Spring. 3(3-0) P: CMP 305 R: Open to juniors or seniors in the Civil Engineering Major or in the Construction Management Major or approval of school. SA: BCM 401, CMP 401
Construction safety with Occupational Safety and Health Administration (OSHA) emphasis. General safety and health provisions, records, and safety management programs. Personnel protection and lifesaving equipment. Economic impact of safety program.

415 Cost Estimating and Analysis
Spring. 3(2-2) P: CMP 315 and CMP 385 SA: BCM 415

423 Construction Project Management
Spring. 3(3-0) P: CMP 385 and CMP 311 and (CMP 415 or concurrently) R: Open to seniors in the Construction Management Major or in the Civil Engineering Major or approval of department. SA: BCM 423
Construction project management principles and practices. Project start up, administration, and documentation. Project controls.

435 Residential Building and Development Projects (W)
Spring. 3(1-4) P: (ACC 230 and CMP 245 and CMP 325 and CMP 328 and (CMP 401 or concurrently) and completion of Tier I writing requirement R: Open to seniors in the Construction Management Major. SA: BCM 435
Working in teams, applying skills of construction project management to develop a residential project and business plan that addresses preconstruction, construction, and marketing areas.

436 Commercial Building Projects (W)
Spring. 3(1-4) P: ((ACC 201 and ACC 202) or ACC 230) and ((CMP 328 and (CMP 423 or concurrently) and completion of Tier I writing requirement) R: Open to seniors in the Construction Management Major. SA: BCM 436
Evaluation, procurement, and management of commercial building projects.

445 Green and Energy Efficient Building Constraction
Spring. 3(2-2) P: CMP 245 Not open to students with credit in CMP 845.
Best building practices in building construction, based upon the Leadership in Energy and Environmental Design and National Green Building Standard, and other national programs.

453 Land Development
Spring. 3(3-0) P: (CMP 305 and CMP 325) or UP 458 R: Open to juniors or seniors in the College of Agriculture and Natural Resources or in the School of Planning, Design and Construction or in the Construction Management Major or in the Civil Engineering Major or in the Urban and Regional Planning major. SA: BCM 353, CMP 353
Methods and practices of land development, market research, financial feasibility, land use regulations, legal documentation, and site analysis and design. Case studies.

479 Wood and Engineered Composites Science and Technologies
Spring. 3(2-2) Interdepartmental with Forestry, Administered by Forestry. P: FOR 414 or concurrently
Sciences and technologies governing industrial and manufacturing processes for lumber, engineered wood, and composite wood products.
Advanced estimation of construction project costs: profit. Bidding. Role of contractor, owner, and archi-
tecture, productivity, and equipment. Overhead and direct and indirect, labor, material, quantity survey-
tion competitions. Field trips may be required.

Process, evaluation, bidding, procurement, value
management, construction technology, solar energy,
special land use codes, or new technology manage-
ment.

Advanced mechanisms, applications, and practices
of virtual design and construction (VDC) in the con-
struction management using Building Information
Modeling (BIM) technology.

831 Lean Construction Principles and
Methods
Spring, 3(3-0) R: Some aspects of project
management (scheduling, estimating), sta-
tistics, and probabilities. Origins and elements of lean production. Principles
of lean construction. Production management. Pro-
ject and production computer simulation. Last Plan-
ner System. Work structuring.

845 Advanced Green and Energy Efficient
Building Construction
Spring, 3(2-2) R: Open to graduate stu-
dents in the School of Planning, Design and
Construction or in the Civil Engineering Ma-
jor. Approval of department. Not open to
students with credit in CMP 445. Best building practices in building construction, based
upon the Leadership in Energy and Environ-
mental Design and National Green Building Stan-
ard, and other national standards; basic understand-
ing on building energy modeling.

890 Special Problems
Fall, Spring, Summer. 1 to 9 credits. A stu-
dent may earn a maximum of 9 credits in all
enrollments for this course. R: Open to
graduate students in the College of Agricultu-
re and Natural Resources. Approval of depart-
ment. SA: BCM 890 Individual study in land acquisition and develop-
ment, design, construction, management, finance,
marketing, and structural analysis.