

# *Building Construction Management*



## **Building America**

<http://www.unf.edu/ccec/bcm/>

The Department of Construction Management (CM) provides the student a program of study that prepares one for a variety of positions in the construction industry. The program consists of a management oriented technical curriculum regarding building construction, computer concepts, and business and general education. A graduate from the BCM program normally finds employment in the residential commercial or heavy civil construction industry. Typical employment opportunities include cost estimator, assistant project manager, project manager, assistant superintendent and field engineer.

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**COLLEGE OF COMPUTING, ENGINEERING, and CONSTRUCTION**  
**2008-2009 UNDERGRADUATE DEGREE REQUIREMENTS**  
**UNIVERSITY OF NORTH FLORIDA**

**MAJOR: Building Construction Management**

**COLLEGE:** Computing, Engineering, and Construction

**DEGREE: Bachelor of Science in Building Construction**

**LIMITED ACCESS PROGRAM: No**

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or

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**PROGRAM OF STUDY AT THE COMMUNITY COLLEGE**

This program of study assumes completion of an AA degree at the community college. Some courses required for the major may also meet General Education Requirements thereby transferring maximum hours to the university. If you transfer without an AA degree and have fewer than 60 semester hours of acceptable credit, you must meet entering freshman requirements.

\*P - Prerequisite courses are lower-level courses that are required for preparation for the university major and must be taken at a community college or in a university lower division program prior to a student receiving a baccalaureate degree from the university. It is preferred that these prerequisites be completed in the freshman and sophomore years.

**ADMISSION REQUIREMENTS TO THE UNIVERSITY**

Please be aware of the immunization, foreign language, and continuous enrollment policies.

**PROGRAM OF STUDY AT THE COMMUNITY COLLEGE**

All courses must be completed with a grade of "C" or better.

**PREREQUISITES**

**Required Courses**

ACG 2021	(3)	Principles of Financial Acc
STA 2023	(3)	Elem Stats for Business
ECO 2013	(3)	Principles of Macroeconomics
ECO 2023	(3)	Principles of Microeconomics
BUL 3130	(3)	Legal Environment of Bus
MAC 2233	(3)	Calculus for Business
BCN 1210	(3)	Construction Materials
BCN 1252	(3)	Construction Drawing
BCN 2405	(3)	Intro to Structures
CGS 1100 or approved computer course with CGS prefix		

**Two Physics Courses with Labs**

PHY 2053	(3)	College Physics I
PHY 2053 L	(1)	College Physics I Lab
PHY 2054	(3)	College Physics II

PHY 2054 L (1) College Physics II Lab  
Acceptable Physics substitutes: PHY 2004 and 2004L and PHY 2005 and 2005L

\*BCN 2280 (3) Survey: Const Layout

**FOUNDATION FOR MAJOR:**

MAR 3023 (3) Principles of Marketing

**One Business Elective: (3 SEMESTER HOURS)**

ACG 2071 Managerial Accounting

MAN 3025 Administrative Management

REE 4043 Real Estate Analysis

**PROGRAM OF STUDY AT UNF**

**Core Requirements (54 SEMESTER HOURS)**

BCN 3782 (3) Introduction to Construction Computing

BCN 3012 (3) History of Construction

BCN 3223 (3) Soils & Foundations

BCN 3762 (3) Bldg Const Design/Codes

BCN 3611 (3) Const Cost Estimating

BCN 4753 (3) Construction Administration & Economics

BCN 4591c (3) Mechanical & Electrical Systems

BCN 3224 (3) Construction Techniques

BCN 4708 (3) Const Documents/Contracts

BCN 4475 (3) Structural Systems

BCN 4720 (3) Construction Scheduling

BCN 4612 (3) Advance Cost Estimating

BCN 4730 (3) Construction Safety

BCN 4709 (3) Construction Management Capstone

BCN 4931 (1) Senior Seminar: Construction Management

BCN 4944 (3) Const Management Internship

**BCM Elective Courses (6 SEMESTER HOURS):**

BCN 4751c (3) Housing and Land Development I      BCN 4758c (3) Housing and Land Development II

BCN 4587c (3) Green Const/Sustainability I      BCN 4564c (3) Green Const/Sustainability II

BCN 4870c (3) Heavy Civil Construction I      BCN 4872c (3) Heavy Civil Construction II

BCN 4871c (3) Commercial Construction      BCN 4873c (3) Commercial Construction II

BCN 4801c (3) Industrial Construction I      BCN 4802c (3) Industrial Construction II

BCN 4944 (3) Construction Management Internship

- Students must pass or meet exemption criteria for all sections of the CLAST prior to earning AA and completing 60 semester hours.
- A student may receive credit for a course only once. However, the GPA will reflect all repeated courses.
- This program includes a minimum of 61 upper division semester hours. Students should make periodic appointments with the BCM advisor to assess their academic progress.

- For substitution/waiver, see advisor.
- An approved dual/concurrent enrollment form is required prior to registering for courses at another institution.
- Students are strongly advised not to enroll in courses at another institution during their last semester at UNF.
- Graduation will most likely be delayed for students who do attempt dual enrollment in their last semester.
- Minimum Total for Degree 126 Semester Hours.

Fall

Spring

**Freshman**

<u>Term 1</u>		<u>Term 2</u>	
ENC 1101 G(6) College Writing	3	Gen. Ed. Humanities	3
CGS 1100 Computer Apps for Business	3	ACG 2021 Prin. of Financial Accounting	3
Gen. Ed. Humanities	3	LIT 2110 G(6) Intro. to Literature	3
Gen Ed Cultural Diversity	3	PHY 2054 College Physics II (NS)	3
PHY 2053 College Physics I (NS)	3	PHY 2054L College Physics II Lab	1
PHY 2053L College Physics I Lab	1	STA 2023 G(M) Elem. Statistics	3
Total		Total	
16		16	

**Sophomore**

<u>Term 3</u>		<u>Term 4</u>	
*BCN 1210C Const. Materials	3	Gen. Ed. Humanities	3
BCN 1251 Construction Drawing	3	ECO 2023 Prin. of Microeconomics	3
BCN 2405 Intro. to Structures	3	BUL 3130 Legal Environment of Bus.	3
ECO 2013 Macroeconomics	3	MAC 2233 Calculus for Business	3
LIT 2932 G(6) Themes & Types in Lit.	3	BCN 3782 Intro. to Const. Computing	3
Total		Total	
15		15	

**Junior**

<u>Term 5</u>		<u>Term 6</u>	
*BCN 3012 History /Intro. Construction	3	*BCN 4612 Adv. Cost Estimating	3
BCN 3762 Bldg. Const. Design/Codes	3	*BCN 4284 Survey: Const. Layout	3
*BCN 3611 Const. Cost Estimating	3	*BCN 4708 Documents & Contracts	3
*BCN 4591c Mechanical & Electrical Systems	3	*BCN 3223 Soils and Foundations	3
Business Elective	3		
Total		Total	
15		12	

***Internship should be taken in one of your last 3 terms***

BCN 4944 Internship	3
Total	3

## Senior

<u>Term 7</u>		<u>Term 8</u>	
CONCENTRATION SELECTION I	3	CONCENTRATION SELECTION II	3
BCN 4753 Const. Admin. & Economics	3	*BCN 4730 Construction Safety	3
MAR 3023 Prin. of Marketing	3	BCN 3224 Construction Techniques	3
BCN 4431 Structural Systems	3	BCN 4709 Construction Project Mgt. Caps	3
BCN 4720 Construction Scheduling	3	BCN 4931 Seminars: Construction Management	1
Total	15	Total	13

### CONCENTRATION SELECTION: SELECT 2 OF THE FOLLOWING:

BCN 4751c (3) Housing and Land Development I	BCN 4758c (3) Housing and Land Development II
BCN 4587c (3) Green Const/Sustainability I	BCN 4564c (3) Green Const/Sustainability II
BCN 4870c (3) Heavy Civil Construction I	BCN 4872c (3) Heavy Civil Construction II
BCN 4871c (3) Commercial Construction	BCN 4873c (3) Commercial Construction II
BCN 4801c (3) Industrial Construction I	BCN 4802c (3) Industrial Construction II
BCN 4944 (3) Construction Management Internship **	

\* Classes that are only offered in the term that they are under.

\*\* Internship can be taken for up to 6 credit hours 3 for internship and 3 for a concentration selection. An extra concentration class can also be taken to take the place of one concentration selection

*Summer classes are offered according to demand from students, budget and availability of professors.*

## STUDENT ACTIVITIES

### Professional Clubs

Associated Builders and Contractors  
Associated General Contractors  
Construction Specifications Institute  
National Association Home Builders

### Honorary Club

Sigma Lambda Chi

### Events

Associated Schools of Construction student design competitions  
Employment Showcase... biannual job fair (Fall and Spring)  
Hard Hat Banquet... year-end celebration  
Student professional Project Management seminars

### Community

Alden Road Exceptional Student Center  
Builders Care... home repair  
HabiJax... building new homes  
Youth Crisis Center

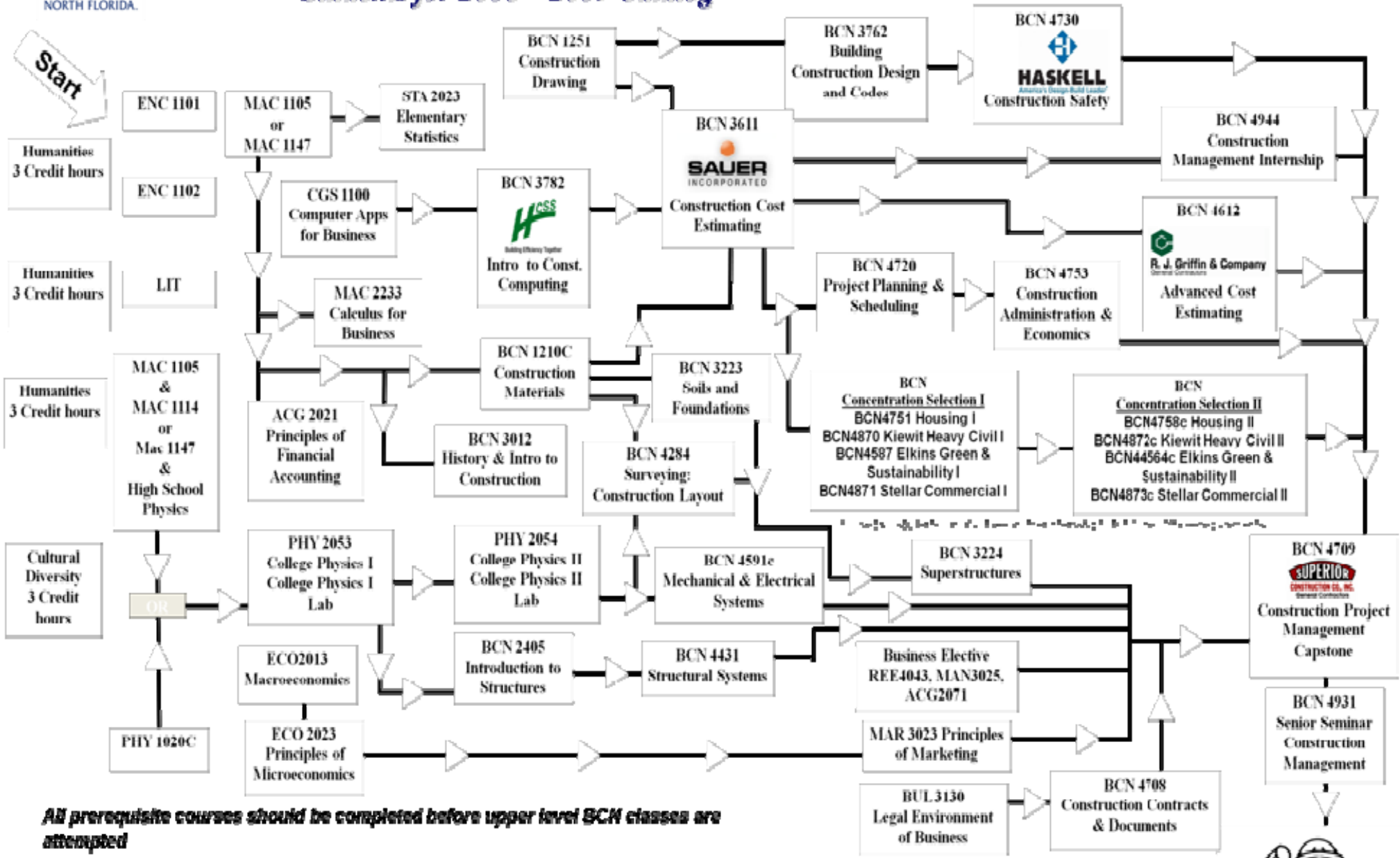


# Building Construction Management

## Course Requirements for Students Without an AA Degree

### Students for 2008 – 2009 Catalog

**#**  
**Name**



**All prerequisite courses should be completed before upper level BCN classes are attempted**

Courses Completed with C or better	Fall 2009	Spring 2010	Summer 2010	Fall 2010	Spring 2010	Summer 2010	Fall 2010
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## BCM Course Catalog Descriptions

- **BCN 1210 - Construction Materials (3)**  
**Prerequisite: MAC 1147.**  
Sources, properties, and uses of construction materials in residential and commercial projects. Fundamental elements of construction materials are discussed.
- **BCN 1251 - Construction Drawing (3)**  
This course provides a basic knowledge on how to create and read building construction and architectural drawings. Topics include hand sketching, scaling of drawings, basic construction abbreviations and the extraction of information
- **BCN 2405 - Introduction to Structures (3)**  
**Prerequisites: MAC 1147, PHY 2053, and PHY 2053L.**  
An introductory course in the evaluation of structural behavior as it relates to buildings, the properties of structural materials, and the structural behavior of load resisting members.
- **BCN 3012 - History of Construction (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
An analysis of the cultural context of construction, emphasizing its centrality in the evolution and expansion of the built environments as expressions of ethical and aesthetic value systems.
- **BCN 3223 - Soils and Foundations (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This course covers construction operations and production processes associated with soils, demolition, foundations, concrete mix design, and earth moving equipment. The course also includes field visits to soil and concrete laboratories.
- **BCN 3224 - Construction Techniques (3)**  
**Prerequisite: BCN 3223.**  
Study of the vertical construction process to include wooden platform frame construction, cast-in-place and pre-cast concrete construction, and steel erection. Included are interior and exterior finishes, vertical transportation systems, roofing, and other building components.
- **BCN 3611 - Construction Cost Estimating (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
Principles and practices in making quantity surveys and labor estimates for construction projects. Basic estimating and residential.
- **BCN 3762 - Construction Design & Codes (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
Exploration of building design and construction that conform to federal, state, county, and municipal codes, as well as the authority and responsibility bestowed in the several agencies. Research of the standard building codes required.
- **BCN 3782 - Intro to Construction Computing (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This course covers the study of application computer programs employed in the construction industry. Areas of study include the Internet, construction scheduling, construction cost estimating and construction drawing.

- **BCN 2280 / 4284 - Surveying: Construction Layout (3)**  
Advanced construction surveying on construction layout with field and classroom exercises.
- **BCN 4431 - Structural Systems (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
A study of the structural systems: beams, columns, rigid frames, arches, trusses, enclosures, and foundation configuration methods used in construction. Included are the advantages and limitations of using each structural system, and each materials selection.
- **BCN 4587 - Green Construction and Sustainability I (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This is the first in a two-course elective track for students specializing in green construction and sustainability. This course addresses the environmental impact of land development and construction. Topics include specific regulations affecting developers and construction managers, the environmental review of developments and methods to prevent or minimize the negative environmental impacts of construction and land development.
- **BCN 4591C - Mechanical and Electrical Systems (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This course introduces students to the principles and current practices in the application of mechanical & electrical systems as described in divisions 14 (conveying equipment), 15 (mechanical systems), and 16 (electrical systems) in the construction specifications institute (CSI).
- **BCN 4594C - Green Construction and Sustainability II**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This is the second course in a two-course elective track for students specializing in green construction and sustainability. This course addresses the environmental impact of land development and construction. Topics include specific regulations affecting developers and construction managers, the environmental review of developments and methods to prevent or minimize the negative environmental impacts of construction and land development.
- **BCN 4612 - Advanced Construction Estimating (3)**  
**Prerequisite: BCN 3611.**  
Advanced techniques for estimating building construction. This course includes direct and indirect cost analysis for complicated construction systems; preparation of bid proposals, specifications, and other related documents. Students will be required to do projects on a computer.
- **BCN 4708 - Construction Documents and Contracts (3)**  
**Prerequisites: BUL 3130**  
A study of the legal and protective documentation used in the construction field. These documents include contracts, specifications, insurance and bonds.
- **BCN 4709 – Construction Management Capstone (3)**  
**Prerequisites: Senior BCM major in graduating term**  
**Corequisite: BCN 4931**  
This course is a senior capstone experience, providing an opportunity for students to control and coordinate construction projects and personnel in a service-learning environment. Students will apply their knowledge and skills in strategic bidding and estimating, ethical conduct, project delivery methods, value engineering, design/build, customer relations and communications.

- **BCN 4720 - Construction Project Planning and Scheduling (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
 The application of the critical path method and program evaluation review technique to construction planning, scheduled vs. actual job expenditures, cost forecasting, development of unit prices from field data.
- **BCN 4730 - Construction Safety (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
 Construction safety issues, concerns, requirements, and procedures. The analysis includes cost, planning, administration, inspection, prevention, loss control, and the drug-free work place.
- **BCN 4751C - Housing and Land Development I**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
 This is the first course in a two-course elective track for students preparing for careers in residential construction. Students learn a broad perspective of the technical knowledge and skills or methods related to residential construction projects. This course prepares students to apply the latest in residential construction technologies.
- **BCN 4758C - Housing and Land Development II**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
 This is the second course in a two-course elective track for students preparing for careers in housing and land development. An analysis of land development via the multifaceted full delivery construction process regarding the built environment will be covered. Emphasis is placed on project feasibility relative to site selection, site acquisition and permitting, value engineering and the construction loans process and funding requirements.
- **BCN 4753 - Construction Administration & Economics (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
 Nature of construction costs, funding sources and arrangements, capital requirements, bonding, insurance, risk and contingency evaluation, general office operations, and bidding procedure.
- **BCN 4870C - Heavy Civil Construction I (3)**  
**Prerequisites: BCN 3223, BCN 3611C**  
 This is the first course in a two-course elective track for students preparing for careers in heavy civil construction. Students learn a broad perspective of the technical knowledge and skills or methods related to heavy civil construction projects, including bridges, highways, tunnels, pump stations, dams and underground utilities. This course prepares student to apply the latest heavy civil construction technologies.
- **BCN 4872C - Heavy Civil Construction II (3)**  
**Prerequisites: BCN 3223, BCN 3611C**  
 This is the second course in a two-course elective track for students preparing for careers in heavy civil construction. Students will apply their knowledge and skills in the management of heavy civil construction, including: strategic bidding and estimating, ethical conduct, project delivery methods, value engineering, design/build, customer relations and communications.
- **BCN 4871C - Commercial Construction I**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
 This is the first in a two-course elective track for students preparing for careers in commercial construction. Students learn a broad perspective of the technical knowledge

and skills or methods related to commercial construction projects including: project management, strategic bidding and estimating, ethical conduct, project delivery methods, value engineering, design/build, customer relations and communications.

- **BCN 4873C - Commercial Construction II**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This is the second course in a two-course elective track for students preparing for careers in commercial construction. Key aspects of commercial construction practice are examined including: project management, strategic bidding and estimating, ethical conduct, project delivery methods, value engineering, design/build, customer relations and communications.
- **BCN 4944 - Construction Management Internship (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
Designed as a culminating experience in construction management, which allows the student an opportunity to practice acquired knowledge under careful observation and in cooperation with an experienced construction manager.
- **BCN 4930– Special Topics/Seminar (3)**  
**Prerequisites: All Lower-Lever Construction Prerequisites**  
This course covers topics of current interest in the construction industry. Topics or focus may vary from semester to semester. This course may be repeated up to 12 credit hours with a change in course content.
- **BCN 4931 – Senior Seminar: Construction Management (1)**  
**Prerequisites: Senior BCM major in graduating term**  
This course offer advanced study within an area of specialization designed for the individual who desires a field of concentration. The course focuses on new information and technology in the construction industry. This course may be repeated when the subject matter is different for a maximum of ten credit hours.

Upper level courses outside department:

- **MAR 3023 - Principles of Marketing (3)**  
**Prerequisites: ECO 2013 and ECO 2023**  
An introduction to the process of planning market programs for goods and services. Techniques of analyzing the market and its environment are introduced as background for making decisions in product planning, promotion, distribution, and pricing.
- **REE 4043 - Real Estate Analysis (3)**  
Decision-making process for development, financing, marketing, and management of real estate within the framework of our government, economic, legal, and social systems. Does meet course content requirements of Florida Real Estate Commission for obtaining a real estate license.