BCN 5285C-Advanced Construction Layout-Principles of building component layout, both horizontally and vertically, using state-of-the-art electronic surveying equipment such as total stations, EDMs, and laser levels.

BCN 5463-Advanced Construction Structure-Study of soils, dewatering and the temporary structures that contractors have to build in order to construct the primary structure.

BCN 5470-Construction Methods Improvements-Methods of analyzing and evaluating construction techniques to improve project time and cost control. Work sampling, productivity ratings, crew balance studies, time lapse photography and time management.

BCN 5618-Comprehensive Estimating-Classification of work and quantity survey techniques. Analysis and determination of costs of construction operations including direct and overhead costs, cost analysis and preparation of bid proposals.

BCN 5625-Construction Cost Analysis-Study of cost engineering and cost distribution and comparative analysis of actual and estimated cost as used for project control.

BCN 5705C-Project management for Construction-Project organization, site planning and implementation.

BCN 5715-Advanced Construction Labor Problems-Labor problems in the construction industry and associated legislation. How to work effectively with unionized labor on construction projects.

BCN 5722-Advanced Construction Planning and Control-Time-cost relationships for various construction operations.

BCN 5737-Advanced Issues in Construction Safety and Health-Current construction safety and health issues. Development of specific methodology to provide hazard reduction on job sites.

BCN 5754C-Site Development-Principles and practices of land development including market analysis, site analysis, project programming and financial feasibility.

BCN 5776-International Construction Business Management-Construction contracting, emphasis on international economics, marketing, contracts, design and specifications.

BCN 5779-Facilities Operation and Maintenance-Facilities management as a specialized professional career; study of how a facility, its people, equipment and operations are served and maintained.

BCN 5789C-Construction Project Delivery-Designing, developing, estimating, scheduling, contracting, and administering small construction project including extensive site and feasibility analysis.

BCN 5905-Special Studies in Construction (1-5; max: 12)-For students requiring supplemental work in the building construction area.

BCN 5949 -Graduate Construction Management Internship (1-3; max: 6) - Two-term employment in construction management position. S/U.

BCN 5957-Advanced International Studies in Construction (1-4; max 6)- Issues of local construction techniques, construction marketing, international construction, sustainability, global economics, and influence on construction of local culture, traditions, architecture, history and political climate. S/U.

BCN 6036-Research Methods in Construction-To familiarize the student with the research proposal development process and the statistical, computational, visualization and presentation tools available to the researcher. The course will parallel the organization of a research proposal.

BCN 6228-High-Rise Construction-Systems and subsystems used in conventional building construction with emphasis on high-rise.

BCN 6580 – High-Performance Green Building-High_peformance Green buildings; emerging delivery systems, evaluating their sustainability, and details on LEED criteria.

BCN 6585-Sustainable Construction-Sustainability principles applied to planning, design, operation, renovation and deconstruction of built environment Emphasis on resource efficiency, environmental protection and waste minimization.

BCN 6586-Construction Ecology and Metabolism-Sustainability principles and concepts related to reducing environmental impacts of creating, operating and deconstruction built environment.

BCN 6621-Bidding Strategy-Strategy of contracting to maximize profit through overhead distribution, breakeven analysis, probability and statistical technique, a realistic risk and uncertainty objective, and bid analysis both in theory and in practice.

BCN 6641-Construction Value Engineering-Principles and applications of value engineering in the construction industry.

BCN 6748-Construction Law-Formation of a company, licensing, bid process, contracts, plans and specifications, mechanics liens, insurance bonds and remedies as they relate to the building constructor and construction manager. Case studies.

BCN 6755-Construction Financial Management-Financial management of construction company using and analyzing income statements and balance sheets, \budgeting, cash flow and cost reporting systems.

BCN 6756-Housing Economics and Policy-Concepts, terminology, and issues in affordable housing.

BCN 6771-Construction Work Acquisition-Develop a successful marketing strategy as a calculated effort to remain competitive in the construction industry.

BCN 6777-Construction Management Processes-Existing and emerging systems for designing, planning and construction of projects. Changing roles, relationships and responsibilities of the parties involved.

BCN 6787-Construction Information Systems-Potential applications of computer and information systems in the construction industry.

BCN 6905-Directed Independent Study in Construction (1-3; max: 3)

BCN 6910-Supervised Research (1-3; max: 3) S/U.

BCN 6933-Human Factors in Construction-Motivating people in construction organizations, improving communication to develop team work which effectively fulfills their needs and achieves organizational objectives.

BCN 6934--Construction Research (1-6; max: 12)-Research for master's report option. S/U.

BCN 6940--Supervised Teaching (1-3; max: 3) S/U.

BCN 6971--Research for Master's Thesis (1-15). S/U

Building Construction Graduate Program

BCN Masters Program–Required Courses for Respective Undergraduate Majors

Course #	Cr	Course	Semester	Prerequisite	Undergraduate Major			
					Const	Arch	Eng	Bus
ACG 2021C	4	Accounting	All			4	4	
BCN 2405C	4	Statics /Strength of Materials	All					4
BCN 3223C	3	Soils & Concrete	Fall/Summer	BCN 2405/ BCN 3224C		3	3	3
BCN 3224C	3	Construction Techniques	Fall				3	3
BCN 3255C	3	Computer & Graphic Comm.	Fall					3
BCN 3281C	2	Construction Layout	Fall/Summer			2	2	2
BCN 3431	3	Structures	Spring	BCN 2405				3
BCN 4423C	3	Temporary Structures	Spring/Summer	BCN 3431		3	3	3
BCN 4510	4	Mechanical Systems	Spring				4	4
BCN 5618C	3	Comprehensive Estimating	Fall/Spring	Non-BCN Grad Only		3	3	3
BCN 5705C	3	Project Mgt. For Const.	Fall/Spring	BCN 5618C, 3700/6748		3	3	3
BCN 5789C	3	Const. Project Delivery	Spring/Sum	BCN 4720/5722, 5618C		3	3	3
BCN 5949	3	Const. Management Internship	Summer					
Subtotal (The above listed courses do not count toward the required graduate credit hours. However, the 5000 level courses will count towards your graduate GPA)					**0**	**21**	**28**	**34**
BCN 5470	3	Methods Improvement	Fall					
BCN 5625	3	Cost Analysis	Spring	BCN 4720/5722, 5618C				
BCN 5715	3	Adv. Const. Labor Problems	Fall					
BCN 5722	3	Adv Planning/Control	Fall/Spring			3	3	3
BCN 5737	3	Adv. Issues in Const. Safety & Health	Spring			3	3	3
BCN 5776	3	International Const. Business Mgt	Fall	BCN 3700/6748				
BCN 5779	3	Facilities Operation and Maintenance	Spring					
BCN 5905	var	Special Topics	All					
BCN 6036	3	Research Methods in Construction	Fall/Spring		3	3	3	3
BCN 6580	3	High Performance Green Bldg. Sys.	Summer A					
BCN 6585	3	Prin. of Sustainable Dev. & Const.	Fall					
BCN 6586	3	Const. Ecology & Metabolism	Spring	BCN 6585				
BCN 6621	3	Bidding Strategy	Summer B	BCN 5618C, 3700/6748				
BCN 6641	3	Value Engineering	Spring	BCN 5618C				
BCN 6748	3	Const. Law	Fall			3	3	3
BCN 6756	3	Housing Economics and Policy	Spring					
BCN 6787	3	Const Information Systems	Spring					
BCN 6933	3	Human Factors	Summer B					
MSBC Subtotal (Minimum hours of BCN courses required, 12 hours other than 6971 must be 6000 level BCN courses). Any non-BCN courses require prior approval.					**21**	**21**	**21**	**21**
MBC Subtotal (Minimum hours of BCN courses required, 12 hours must be 6000 level BCN courses). Any non-BCN courses require prior approval.					**27**	**27**	**27**	**27**
BCN 6971	3	Thesis Research (**MSBC ONLY**)	All		3	3	3	3
Elective (5000 Level or above, any department*)			**MSBC** (Thesis Option)**		6	6	6	6
			MBC		9	9	9	9
Total Required Graduate Hours for Masters of Science in Building Construction (MSBC - Thesis Option)					30	30	30	30
Total Required Graduate Hours for Masters of Building Construction (MBC)					36	36	36	36

***Prior approval required.**

****A Sustainable Construction Concentration is available for MSBC students. The requirements are completion of BCN6580, BCN6585, BCN6586 and BCN6641 with a sustainable construction oriented thesis.**