

Building Engineering

September Entry

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Fall	BCEE 231	Structured Programming and Applications for Building and Civil Engineers	3.00	MATH 204	ENGR 242
		BLDG 212	Building Engineering Drawing and Introduction to Design	3.00		
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205	MATH 204
		ENGR 242	Statics	3.00	MATH 204; PHYS 204	ENGR 213
	Winter					
		ENGR 201	Professional Practice and Responsibility	1.50		
		ENGR 233	Applied Advanced Calculus	3.00	MATH 204, 205	
		ENGR 243	Dynamics	3.00	ENGR 213, 242	
		ENGR 244	Mechanics of Materials	3.75	ENGR 213; ENGR 242 or 245	ENGR 233
		ENGR 251	Thermodynamics I	3.00	MATH 203	
	Summer					
		BCEE 371	Surveying	2.00	BLDG 212 or CIVI 212	
Year 2	Fall	BCEE 342	Structural Analysis I	3.00	ENGR 244	
		BLDG 341	Building Engineering Systems	3.00		BCEE 231
		ELEC 275	Principles of Electrical Engineering	3.50	PHYS 205	ENGR 213
		ENGR 311	Transform Calculus and Partial Differential Equations	3.00	ENGR 213, 233	
		ENGR 361	Fluid Mechanics I	3.00	ENGR 213, 233, 251	
	Winter					
		BCEE 344	Structural Design of Steel and Wood Elements	3.00	BCEE 342	
		BLDG 365	Building Science	3.50	ENGR 251	
		ENGR 301	Engineering Management Principles and Economics	3.00		
		ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, 233; COMP 248 or COEN 243 or MECH 215 or BCEE 231	
			General Education Elective	3.00		

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 3	Fall	BCEE 345	Structural Design of Reinforced Concrete Elements	3.00	BCEE 342	
		BLDG 390	Building Engineering Design Project	3.50	BLDG 341; ENCS 282	BCEE 344
		BLDG 476	Thermal Analysis of Buildings	3.00	BLDG 365; ENGR 361	
		BCEE 432	Soil Mechanics	3.50	ENGR 244	
	Winter	BLDG 371	Building Service Systems	3.50		BLDG 365
		CIVI 321	Engineering Materials	3.75	CHEM 205	
		ENGR 371	Probability and Statistics in Engineering	3.00	ENGR 213, 233	
		BCEE 451	Construction Engineering	3.00	BLDG 341 or CIVI 341	
			Technical elective*			
Year 4	Fall	BLDG 463	Building Envelope Design	3.00	BLDG 365	
		BLDG 471	HVAC System Design	4.00	BLDG 371	BLDG 476
		BLDG 490	Capstone Building Engineering Design Project	6.00	Minimum of 75 credits in the BEng (Bldg) program including ENCS 282; BCEE 344, 345; BLDG 371, 390; ENGR 301	
				3.00	20 courses in the BEng program	
	Winter	BLDG 490	Capstone Building Engineering Design Project	Continued		
		BLDG 482	Impact of Technology on Society and Architecture		Minimum of 75 credits in the BEng (Bldg) program including ENCS 282; BCEE 344, 345; BLDG 371, 390; ENGR 301	
			Technical elective*			
			Technical elective*			
			Technical elective*			

** Students must select the program option before enrolling in technical elective courses. Students in the Building Engineering program must complete at least 15.5 elective credits from the selected option A or B. For more information, please consult section 71.50.1 of the Undergraduate Calendar.*

Building Engineering
January Entry

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Winter	ELEC 275	Principles of Electrical Engineering	3.50	PHYS 205	ENGR 213
		ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205	MATH 204
		ENGR 233	Applied Advanced Calculus	3.00	MATH 204, 205	
		ENGR 242	Statics	3.00	MATH 204; PHYS 204	ENGR 213
		ENGR 251	Thermodynamics I	3.00	MATH 203	
	Summer					
		ENGR 243	Dynamics	3.00	ENGR 213, 242	
		ENGR 244	Mechanics of Materials	3.75	ENGR 213; ENGR 242 or 245	ENGR 233
		ENGR 361	Fluid Mechanics I	3.00	ENGR 213, 233, 251	
Year 2	Fall	BCEE 231	Structured Programming and Applications for Building and Civil Engineers	3.00	MATH 204	ENGR 242
		BCEE 342	Structural Analysis I	3.00	ENGR 244	
		BLDG 212	Building Engineering Drawing and Introduction to Design	3.00		
		BLDG 341	Building Engineering Systems	3.00		BCEE 231
		ENGR 201	Professional Practice and Responsibility	1.50		
	Winter					
		BCEE 344	Structural Design of Steel and Wood Elements	3.00	BCEE 342	
		BLDG 365	Building Science	3.50	ENGR 251	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		ENGR 311	Transform Calculus and Partial Differential Equations	3.00	ENGR 213, 233	
		ENGR371	Probability and Statistics in Engineering	3.00	ENGR 213, 233	
	Summer	BCEE 371	Surveying	2.00	BLDG 212 or CIVI 212	
Year 3	Fall	BCEE 345	Structural Design of Reinforced Concrete Elements	3.00	BCEE 342	
		BLDG 390	Building Engineering Design Project	3.50	BLDG 341; ENCS 282	BCEE 344
		BLDG 476	Thermal Analysis of Buildings	3.00	BLDG 365; ENGR 361	
		BCEE 432	Soil Mechanics	3.50	ENGR 244	
		ENGR 301	Engineering Management Principles and Economics	3.00		

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
	Winter	ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, 233; COMP 248 or COEN 243 or MECH 215 or BCEE 231	
		BLDG 371	Building Service Systems	3.50		BLDG 365
		CIVI 321	Engineering Materials	3.75	CHEM 205	
			Technical elective*			
			General Educational elective	3.00		
Year 4	Fall			3.00	20 courses in the BEng program	
		BLDG 463	Building Envelope Design	3.00	BLDG 365	
		BLDG 471	HVAC System Design	4.00	BLDG 371	BLDG 476
		BLDG 490	Capstone Building Engineering Design Project	6.00	Minimum of 75 credits in the BEng (Bldg) program including ENCS 282; BCEE 344, 345; BLDG 371, 390; ENGR 301	
			Technical elective*			
	Winter	BLDG 490	Capstone Building Engineering Design Project	Continued		
		BCEE 451 BLDG 482	Construction Engineering Impact of Technology on Society and Architecture		Minimum of 75 credits in the BEng (Bldg) program including ENCS 282; BCEE 344, 345; BLDG 371, 390; ENGR 301	
			Technical elective*	3.00	BLDG 341 or CIVI 341	
			Technical elective*			
			Technical elective*			

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Building Engineering Co-op Entry

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Fall	BCEE 231	Structured Programming and Applications for Building and Civil Engineers	3.00	MATH 204	ENGR 242
		BLDG 212	Building Engineering Drawing and Introduction to Design	3.00		
		BLDG 341	Building Engineering Systems	3.00		BCEE 231
		ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205	MATH 204
		ENGR 242	Statics	3.00	MATH 204; PHYS 204	ENGR 213
	Winter	ENGR 201	Professional Practice and Responsibility	1.50		
		ENGR 233	Applied Advanced Calculus	3.00	MATH 204, 205	
		ENGR 243	Dynamics	3.00	ENGR 213, 242	
		ENGR 244	Mechanics of Materials	3.75	ENGR 213; ENGR 242 or 245	ENGR 233
		ENGR 251	Thermodynamics I	3.00	MATH 203	
	Summer	BCEE 342	Structural Analysis I	3.00	ENGR 244	
		BCEE 371	Surveying	2.00	BLDG 212 or CIVI 212	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		ENGR 311	Transform Calculus and Partial Differential Equations	3.00	ENGR 213, 233	
		ENGR 361	Fluid Mechanics I	3.00	ENGR 213, 233, 251	
Year 2	Fall	Work Term 1				
	Winter	BCEE 344	Structural Design of Steel and Wood Elements	3.00	BCEE 342	
		BLDG 365	Building Science	3.50	ENGR 251	
		ELEC 275	Principles of Electrical Engineering	3.50	PHYS 205	ENGR 213
		BLDG 371	Building Service Systems	3.50		BLDG 365
		CIVI 321	Engineering Materials	3.75	CHEM 205	
	Summer		General Educational Elective	3.00		
		ENGR 301	Engineering Management Principles and Economics	3.00		

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
		ENGR 371	Probability and Statistics in Engineering	3.00	ENGR 213, 233	
		ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, 233; COMP 248 or COEN 243 or MECH 215 or BCEE 231	
Year 3	Fall	BCEE 345	Structural Design of Reinforced Concrete Elements	3.00	BCEE 342	
		BLDG 390	Building Engineering Design Project	3.50	BLDG 341; ENCS 282	BCEE 344
		BLDG 476	Thermal Analysis of Buildings	3.00	BLDG 365; ENGR 361	
		BCEE 432	Soil Mechanics	3.50	ENGR 244	
			Technical elective*			
	Winter	Work Term 2				
	Summer	Work Term 3				
Year 4	Fall			3.00	20 courses in the BEng program	
		BLDG 463	Building Envelope Design	3.00	BLDG 365	
		BLDG 471	HVAC System Design	4.00	BLDG 371	BLDG 476
		BLDG 490	Capstone Building Engineering Design Project	6.00	Minimum of 75 credits in the BEng (Bldg) program including ENCS 282; BCEE 344, 345; BLDG 371, 390; ENGR 301	
			Technical elective*			
	Winter	BLDG 490	Capstone Building Engineering Design Project	Continued		
		BLDG 482 BCEE 451	Impact of Technology on Society and Architecture Construction Engineering		Minimum of 75 credits in the BEng (Bldg) program including ENCS 282; BCEE 344, 345; BLDG 371, 390; ENGR 301	
			Technical elective*	3.00	BLDG 341 or CIVI 341	
			Technical elective*			
			Technical elective*			

** Students must select the program option before enrolling in technical elective courses. Students in the Building Engineering program must complete at least 15.5 elective credits from the selected option A or B. For more information, please consult section 71.50.1 of the Undergraduate Calendar..*