E. Required Curriculum Categories, Core Subject Matter, Topical Content

REQUIRED CURRICULUM CATEGORIES																																								
		REQUIRED MAJOR (CM) COURSES																			REQUIRED MAJOR RELATED COURSES													GENERAL EDUCATION					
		CMG 103	CMG 104	CMG 117	CMG 221	CMG 222	CMG 225	CMG 233	CMG 331	CMG 332	CMG 336	CMG 337	CMG 345	CMG 415	CMG 423	CMG 436	CMG 437	CMG 447	CMG 470	CMG 475	ACC 201	COM 103	ECN 131	ECN 141	ECN 241	ECN 344	GOL 225	MGT 201	MGT 202	MAT 151	PHI 108	PHY 151	PHY 152	ENG 101	ENG 102	Foreign Lang I	Foreign Lang II	Humant's Elec	Social Sci Elec
1.00	**GENERAL EDUCATION** (15 Sem hrs) [225 Instructional hrs]	1	1							6	1			21	15			1	2	4		45									45			45	45	45	45	90	90
1.10	o **Communication** oral & written (8 Sem hrs) [120 instructional hrs]	1								5									1	1		45												45	45				
1.20	o **Ethics** (1 Sem hr) [15 Instructional hrs]	1	1							1	1			3				1	1	1											45								
2.00	**MATHEMATICS & SCIENCE** (15 Sem hrs) [225 Instructional hrs]																								45		60			45		60	60						
2.10	o **Physical or Environmental Science** *Analytical* (8 Sem hrs) [120 Instructional hrs]																										60					60	60						
2.11	• Geology • Physics																										X					X	X						
2.20	o **Statistics and/or Mathematics** (3 Sem hrs) [45 Instructional hrs]																								45					45									
2.21	• Pre-Cal • Statistics																								X					X									
3.00	**BUSINESS & MANAGEMENT** (18 Sem hrs) [270 Instructional hrs]																				45		45	45		45		45	45										
3.1	o **Economics**																						45	45		45													
3.2	o **Accounting**														15						45																		
3.3	o **Principles of Management**																			2								45	45										
3.4	o **Business Law**													18																									

REQUIRED CURRICULUM CATEGORIES – Cont'd

		REQUIRED MAJOR (CM) COURSES																			REQUIRED MAJOR RELATED COURSES													GENERAL EDUCATION					
		CMG 103	CMG 104	CMG 117	CMG 221	CMG 222	CMG 225	CMG 233	CMG 331	CMG 332	CMG 336	CMG 337	CMG 345	CMG 415	CMG 423	CMG 436	CMG 437	CMG 447	CMG 470	CMG 475	ACC 201	COM 103	ECN 131	ECN 141	ECN 241	ECN 344	GOL 225	MGT 201	MGT 202	MAT 151	PHI 108	PHY 151	PHY 152	ENG 101	ENG 102	Foreign Lang I	Foreign Lang II	Humant's Elec	Social Sci Elec
4.00	**CONSTRUCTION SCIENCE** (20 Sem hrs) [300 Instructional hrs]	2	15	45	45	45	20	45	20	15	43	45	41		3	39		9	10	8																		
4.10	o **Design Theory** (3 Sem hrs) [45 Instructional hrs]	1			4						5	2	10			29																						
4.11	▪ Soil Mechanics ▪ Structural Mechanics ▪ Thermodynamics				X X						 X X	X	X			X X																						
4.20	o **Analysis and Design of Construction Systems** (6 Sem hrs) [90 Instructional hrs]			10							29	36	14			5				2																		
4.21	▪ Civil			X							X	X	X			X				X																		
4.22	▪ Electrical			X							X									X																		
4.23	▪ Mechanical			X							X									X																		
4.24	▪ Structural			X								X				X				X																		
4.30	o **Construction Methods and Materials** (6 Sem hrs) [90 Instructional hrs]			10	41	45	15				5	5	15		3	5		9	4	2																		
4.31	• Composition and Properties			X	X	X					X	X				X			X																			
4.32	• Terminology and units of measure			X	X	X					X	X				X			X	X																		
4.33	• Standard designations			X	X	X	X				X	X				X			X	X																		
4.34	• Conformance references and testing techniques			X	X	X	X				X	X				X			X	X																		

REQUIRED CURRICULUM CATEGORIES – Cont'd

		REQUIRED MAJOR (CM) COURSES																			REQUIRED MAJOR RELATED COURSES													GENERAL EDUCATION					
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4.00	**CONSTRUCTION SCIENCE Cont'd – Methods & Material's**	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4.35	• Products, systems and interface issues			X	X	X	X					X	X			X			X	X																			
4.36	• Equipment applications and utilization			X			X						X			X			X	X																			
4.37	• Comparative cost analysis			X								X	X		X	X			X	X																			
4.38	• Assembly techniques and equipment selection				X	X										X			X	X																			
4.39	• Building Codes and standards				X	X					X					X		X	X	X																			
4.40	o **Construction Graphics** (1 Sem hr) [15 Instructional hrs]	1	15	25			5	15	20	15	4	2	2						4	2																			
4.41	• Basic drawing and sketching techniques		X	X				X			X																												
4.42	• Graphic vocabulary	X	X	X				X	X	X	X								X	X																			
4.43	• Detail hierarchies, scale, content	X	X	X				X	X	X	X								X	X																			
4.44	• Notes and specifications, reference conventions		X	X			X	X	X	X	X	X	X						X	X																			
4.45	• Computer applications		X	X				X	X	X																													
4.50	o **Construction Surveying** (1 Sem hr) [15 instructional hrs]							30											2	2																			
4.51	• Survey, layout, and alignment control							X											X	X																			
4.52	• Site organization and development							X											X	X																			

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5.00	**CONSTRUCTION** (20 Sem hrs) [300 Instructional hrs]	42	29				25		25	24	1		4	24	27	6	45	35	33	33																			
5.10	o **Estimating** (3 sem hrs) [45 Instructional hrs]	3	29						25	18	1		2			3			5	6																			
5.11	• Types of estimates and uses	X							X	X									X																				
5.12	• Quantity take-off	X	X						X	X	X		X			X			X	X																			
5.13	• Labor and equipment productivity factors	X								X			X			X			X	X																			
5.14	• Pricing and price data bases	X							X	X			X						X	X																			
5.15	• Job direct and indirect costs	X	X							X			X						X	X																			
5.16	• Bid preparation and submission		X						X	X			X						X	X																			
5.17	• Computer applications								X	X			X						X	X																			
5.20	o **Planning and Scheduling** (3 Sem hrs) [45 Instructional hrs]	3											1			2	45		5	4																			
5.21	• Parameters affecting project planning	X											X			X	X		X	X																			
5.22	• Schedule information presentation																X		X	X																			
5.23	• Network diagramming and calculations with CPM	X															X		X	X																			
5.24	• Resource allocation and management																X		X																				
5.25	• Impact of changes																X		X																				
5.26	• Computer applications																X		X	X																			

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5.30	o **Construction Accounting and Finance** (1 Sem hr) [15 Instructional hrs]	3								6					27				5	4																			
5.31	• Cost accounting and industry formats	X								X					X				X	X																			
5.32	• Fixed and variable costs: insurance, bonding, marketing, general and administrative expenses	X								X					X					X																			
5.33	• Bidding and procurement practices	X								X					X				X	X																			
5.34	• Record and report practices	X													X				X																				
5.35	• Capital equipment, depreciation, and expensing												X		X																								
5.36	• Forecasting costs and cash flow requirements	X													X					X																			
5.37	• Payment processes and time value of money	X													X				X																				
5.40	o **Construction Law** (1 Sem hr) [15 Instructional hrs]	3					15							23						2																			
5.41	• Construction contracts, roles & responsibilities of parties	X					X							X						X																			
5.42	• The regulatory environment and licensing	X					X							X						X																			
5.43	• Lien Laws and the contractor's rights	X					X							X																									
5.44	• National and local labor laws	X					X							X						X																			

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5.00	**CONSTRUCTION cont'd – Construction Law**	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5.45	• Administrative procedures to avoid disputes	X					X							X																									
5.50	o **Safety** (1 Sem hr) [15 Instructional hrs]	10											1			1		9	5	5																			
5.51	• Safe Practices	X											X			X			X	X																			
5.52	• Mandatory procedures, training, records, and maintenance	X					X											X	X	X																			
5.53	• Compliance, inspection, and penalties																	X	X	X																			
5.60	o **Project Management** (3 Sem hrs) [45 Instructional hrs]	19					10							1				26	13	12																			
5.61	• Concepts, roles, and responsibilities	X					X											X	X	X																			
5.62	• Labor relations	X												X					X																				
5.63	• Administrative systems and procedures	X					X											X	X	X																			
5.64	• Cost control data and procedures	X																	X	X																			
5.65	• Documentation at job site and office	X					X											X	X	X																			
5.66	• Quality control philosophies and techniques	X					X											X	X	X																			
5.67	• Computer applications																	X	X	X																			