

Memo

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APPROVED NOV 18 2009

To: Chair, University Undergraduate Council

From: Neil Eldin, Director of Construction Management Program

CC: Fred Lewallen, Associate Dean for Academic Affairs

Date: 10/15/2009

Re: Request for modifications to the Construction Management Degree Plan - effective date of fall-2010

This memo is to request modifications to the current Construction Management degree plan. The modifications address compliance to accreditation requirements, developing an industrial track, and house clearing items (e.g., deleting unnecessary labs and updating prerequisites). The proposed modifications are requested to be in effect starting fall-2010. The modified degree plan is attached for ease of reference.

Accreditation Requirements Related

- Our accrediting agency, the American Council for Construction Education (ACCE-<http://www.acce-hq.org/baccalaureateprograms.htm>) mandates six hours of lecture plus two hour of laboratory to satisfy the requirements in the field of Natural Science. The following laboratories must be added to comply with this requirement:
 - PHYS 1102 (General Phys-I)
 - PHYS 1102 (General Phys-II) or GEOL 1130

To offset the additional laboratory hours above, the following course are removed from the degree plan in order to keep the number of credit at 120 credits for the degree:

- CNST 4290 (Current Issues in Construction)
- ACCE mandates 18 hours in the field of "Business and Management" to be taught by the unit in charge of that field of study (i.e., C.T. Bauer College of Business). Additional nine hours are required to comply with this requirement. The following is a list of courses from which students can select 9 credits to comply with this requirement:

- ACCT 2332 (Principles of Accounting)
- FINA 3332 (Principles of Financial Management)
- MANA 3335 (Int. Org Behavior & Mgmt)
- MARK 3336 (Elmnt. Mkt. Administration)
- SCM 3301 (Service and Manufacturing Operations)

To offset the above additional nine hours the following three courses are removed from the degree plan:

- MECT 2354 (Intro to Mechanics)
 - SURY 2361 (Surveying-I)
 - CNST 3312 (Project Finance & Econ)
- Due to the above modifications a number of courses required adjustment of prerequisites and/or re-titling. The following provides a list of such courses:
 - CNST 3351 needs adjustment of prerequisites
 - CNST 3355 needs adjustment of prerequisites and a more descriptive title
 - CNST 4265 needs adjustment of prerequisites and a more descriptive title

House Clearing Items

- The following courses require lecture-lab structuring to improve course contents and delivery:
 - CNST 2351 needs to be updated to a lecture only class (3-0).
 - CNST 3351 needs to be updated to a lecture only class (3-0).
 - CNST 3311 needs to be updated to a lecture only class (3-0).
 - CNST 4372 needs to be updated to a lecture only class (3-0).
 - CNST 4381 needs to be updated to a lecture only class (3-0).

Developing an Industrial Track

In response to the industry advisory board and the market demands a Process and Industrial track/emphasis has been added as an option within the current Construction Management degree plan. This new track emphasis will position UH as the first university that offers Construction Management degree with a focus on the energy (Oil and Gas) sector of the market. The following summarizes the courses necessary for the new track:

- CNST 1315 (Project Drawings and Graphics)
- CNST 1325 (Process and Industrial Construction)
- CNST 2325 (Process and Industrial Subsystems)
- CNST 2345 (Contract Documents for Capital Projects)
- CNST 3315 (Steel Construction)
- CNST 3365 (Cost Estimating for Capital Projects)

- CNST 4335 (Leadership of Construction Projects)
- CNST 4345 (Reinforced Concrete Structures)
- CNST 4385 (Field Operations for Capital Projects)

Construction Management Major

This program includes topics directed towards managing construction projects, interpreting codes and specifications, administering contracts, estimating costs, and scheduling project activities.

The objective of the Construction Management program is to provide graduates with knowledge and skills that are valued and sought by the construction industry profession. Commercial, residential, industrial, and highway/heavy sectors of the construction industry need entry-level professional employees who are knowledgeable and skilled. Graduates must have knowledge of construction materials and methods, structural systems, soils, site development, surveying, and contract administration; be capable of interpreting codes, plans, and specifications; and have skills for planning, estimating, scheduling, and evaluating project performance. The program's curriculum provides fundamental and advanced coursework that incorporate current standards and technology for managing and providing quality construction. Software is applied in curriculum courses to prepare students for careers that require knowledge of computer estimating and scheduling.

Construction Management graduates should have knowledge and problem-solving skills to:

1. Determine costs for construction activities and projects, establish construction schedules, and apply time value of money concepts for evaluation of alternatives;
2. Evaluate project schedule and cost performance;
3. Interpret construction material properties and standards;
4. Produce and interpret drawings; interpret codes for concrete, steel, and timber construction;
5. Apply design concepts for site development (soils and foundations, water distribution, waste-water collection, and storm-water drainage);
and
6. Perform managerial functions.

The program is committed to attaining the following goals:

Provide a career-oriented program that prepares students for productive and professional employment in the construction industry.

Emphasize inclusion of recent technological advancements into the technology/construction management curriculum in the areas of management, scheduling, estimating, cost-control, and other construction courses.

Provide a learning environment where students apply state-of-the-art technological equipment and software.

Prepare graduates to pursue graduate degrees and life-long education.

Provide students with an opportunity to prepare for entry into the Master of Technology in Construction Management Technology program.

At the Master of Technology level, students will receive advanced education, preparing them to be construction management leaders in industry or faculty members in colleges and universities. For more information on the graduate program, please refer to the Graduate and Professional Studies catalog.

Majors in Construction Management may use no grade below C- in junior and senior level courses to satisfy major degree requirements.

Students pursuing a major in Construction Management must complete the following requirements in addition to the university core and general college requirements.

Construction Management Major Requirements

ACCT 2331. Accounting Principles I - Financial

ACCT 2332. Accounting Principles II - Managerial

CNST 1361. Construction Management I

CNST 2351. Construction Estimating I

CNST 3185. Construction Experience

CNST 3205. Construction Safety Management

CNST 3301. Construction Equipment and Methods

CNST 3331. Construction Planning and Scheduling

CNST 3355. Construction Materials and Testing

CNST 3155. Construction Materials and Testing Lab

CNST 4265. Site Development and Environmental Issues

Deleted: CNST 1301. Construction Materials and Methods

Deleted: CNST 2321. Mechanical and Electrical Systems

Deleted: CNST 2341. Construction Documents

Deleted: CNST 2351. Construction Estimating I

Deleted: CNST 3185. Construction Experience

Deleted: CNST 3205. Construction Safety Management

Deleted: CNST 3301. Construction Equipment and Methods

Deleted: CNST 3311. Structural Steel and Timber Construction

Deleted: CNST 3312. Project Finance and Economics

CNST 4302. Construction Law and Ethics	Deleted: CNST 3331. Construction Planning and Scheduling
CNST 4372. Soil Mechanics and Foundations	Deleted: CNST 3351. Construction Estimating II
Commercial Construction Track (27 SH)	Deleted: CNST 3355. Construction Materials and Testing
CNST 1301. Construction Materials and Methods	Deleted: CNST 3155. Construction Materials and Testing Lab
CNST 1330: Graphics I	Deleted: CNST 4265. Site Development and Environmental Issues
CNST 2321. Mechanical and Electrical Systems	Deleted: CNST 4290. Current Issues in Construction
CNST 2341. Construction Documents	Deleted: CNST 4302. Construction Law and Ethics
CNST 3311. Structural Steel and Timber Construction	Deleted: CNST 4331. Construction Management II
CNST 3351. Construction Estimating II	Deleted: CNST 4341. Project Controls
CNST 4331. Construction Management II	Deleted: CNST 4372. Soil Mechanics and Foundations
CNST 4341. Project Controls	Deleted: CNST 4381. Reinforced Concrete and Building Codes
CNST 4341. Project Controls	Deleted: MECT 2354. Introductions to Mechanics
CNST 4381. Reinforced Concrete and Building Codes	Deleted: SURY 2361. Surveying I
Process and Industrial Track (27 SH)	
CNST 1315. Project Drawings and Graphics	
CNST 1325. Process and Industrial Construction	
CNST 2325. Process and Industrial Subsystems	
CNST 2345. Contract Documents for Capital Projects	
CNST 3315. Steel Construction	
CNST 3365. Cost Estimating for Capital Projects	
CNST 4335. Leadership of Construction Projects	
CNST 4345. Reinforced Concrete Structures	
CNST 4341. Field Operations for Capital Projects	

Program Requirements

Math/Reasoning	
(13 SH which includes university core)	
MATH 1313. Finite Mathematics with Applications	
MATH 1330. Precalculus	
MATH 1431. Calculus I	
TMTH 3360. Applied Technical Statistics	
Natural Sciences	
(8 SH which includes university core)	
PHYS 1301/1101. Introductory General Physics I & Laboratory	Deleted: 6
PHYS 1302/1102. Introductory General Physics I & Laboratory or GEOL 1330/1130. Physical Geology & Laboratory	
General Technology and College Core	
(3 SH)	
TELS 3363. Technical Communication	Deleted: 6
	Deleted: CNST 1330. Graphics I

Approved Business Electives
(Choose 6 SH)
MANA 3335: Introduction to Organizational Behavior and Management
MARK 3336: Elements of Marketing Administration
FINA 3332: Principles of Financial Management
SCM 3301: Service and Manufacturing Operations
Social/Behavioral Sciences
(3 SH which includes university core)
ECON 2304. Microeconomics or ECON 2305. Macroeconomics
Writing in the Discipline
(3 SH which includes university core)
GENB 4350. Business Law and Ethics

Degree awarded: Bachelor of Science

Major: Construction Management

CONSTRUCTION MANAGEMENT (CMT)

UNIVERSITY of HOUSTON
COLLEGE OF TECHNOLOGY

ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE

NAME _____

PS _____

UNIVERSITY CORE REQUIREMENTS (42 SH)

	GR	SH	AH
<u>Communication (6 SH)</u>			
ENGL 1303	English Composition I	_____	_____
ENGL 1304	English Composition II	_____	_____
<u>Writing in the Discipline* (3 SH)</u>			
GENB 4350	Business Law & Ethics	_____	_____
<u>History/Government (12 SH)</u>			
HIST 1377	US History to 1867	_____	_____
HIST 1378	US History since 1867	_____	_____
POLS 1336	US & TX Const/Politics	_____	_____
POLS 1337	US Government	_____	_____

Humanities* (3 SH)

Visual/Performing Arts* (3 SH)

Social/Behavioral Sciences* (3 SH)

ECON 2304	Micro or ECON 2305 Macro	_____	_____
<u>Math/Reasoning (13 SH, 6 which satisfy University Core)</u>			
MATH 1313	Finite Math w/ Applications	_____	_____
MATH 1330	Precalculus	_____	_____
MATH 1431	Calculus I	_____	_____
TMTH 3360	Applied Tech Statistics	_____	_____

Natural Sciences (8 SH, 6 which satisfy University Core)

PHYS 1301/1101	Intro. Gen. Phys I & Lab	_____	_____
PHYS 1302/1102	Intro. Gen. Phys II & Lab	_____	_____
	Or GEOL 1330/1130 Physical Geology & Lab	_____	_____

PROGRAM REQUIREMENTS (3 SH)

TELS 3363	Technical Comm.	_____	_____
<u>Approved Business Electives (Choose 6 SH)</u>			
MANA 3335	Intro to Organizat Beh & Mang	_____	_____
MARK 3336	Elements of Marketing Admin	_____	_____
FINA 3332	Princ of Financial Mang	_____	_____
OCM 3301	Service & Manufacturing Ops	_____	_____

6 advanced (3000- or 4000-level) semester hours must be completed.

For graduation with Honors, see Undergraduate Catalog.

Refer to class schedule for lists of courses that satisfy University requirements.

MAJOR REQUIREMENTS (60 SH)

	GR	SH	AH
ACCT 2331	Accounting Princ. I-Financial	_____	_____
ACCT 2332	Accounting Princ. II-Mang	_____	_____
CNST 1361	Construction Management I	_____	_____
CNST 2351	Construction Estimating I	_____	_____
CNST 3185	Construction Experience	_____	_____
CNST 3205	Cnst. Safety Management	_____	_____
CNST 3301	Cnst. Equip. & Methods	_____	_____
CNST 3331	Cnst. Planning & Sched.	_____	_____
CNST 3355	Cnst. Materials & Testing	_____	_____
CNST 3155	Construction Mat. & Test Lab	_____	_____
CNST 4265	Site Develop. & Env. Issues	_____	_____
CNST 4302	Construction Law & Ethics	_____	_____
CNST 4372	Soil Mechanics & Foundations	_____	_____

Choose either the Commercial or the Process and Industrial Track.

Commercial Construction Track (27 SH Minimum)

CNST 1330	Graphics I	_____	_____
CNST 1301	Construction Mat. & Methods	_____	_____
CNST 2321	Mech. & Electrical Systems	_____	_____
CNST 2341	Construction Documents	_____	_____
CNST 3311	Structural Steel & Timber Cnst	_____	_____
CNST 3351	Construction Estimating II	_____	_____
CNST 4331	Construction Management II	_____	_____
CNST 4341	Project Controls	_____	_____
CNST 4381	Reinf. Conc. & Bldg Codes	_____	_____

Process and Industrial Track (27 SH Minimum)

CNST 1315	Project Drawings & Graphics	_____	_____
CNST 1325	Process & Ind Construction	_____	_____
CNST 2325	Process & Ind Subsystems	_____	_____
CNST 2345	Contract Documents Captl Proj	_____	_____
CNST 3315	Steel Construction	_____	_____
CNST 3365	Cost Estimating Capital Proj	_____	_____
CNST 4335	Leadership of Cnst. Projects	_____	_____
CNST 4345	Reinforced Concrete Structures	_____	_____
CNST 4385	Field Operations Capital Proj	_____	_____

Total hours required: 120 semester hours

APPROVALS:

Student _____ Date _____

Advisor _____ Date _____

Department Chair _____ Date _____

CONSTRUCTION MANAGEMENT (CMT)

UNIVERSITY of HOUSTON
COLLEGE OF TECHNOLOGY

ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE

NAME _____ SSN _____

UNIVERSITY CORE REQUIREMENTS (46 SH)

	GR	SH	AH
<u>Communication (6 SH)</u>			
ENGL 1303 English Composition I	___	___	___
ENGL 1304 English Composition II	___	___	___
<u>Writing in the Discipline* (3 SH)</u>			
GENR 4350 Business Law & Ethics	___	___	___
<u>History/Government (12 SH)</u>			
HIST 1377 US History to 1867	___	___	___
HIST 1378 US History since 1867	___	___	___
POLS 1336 US & TX Const/Politics	___	___	___
POLS 1337 US Government	___	___	___
<u>Humanities* (3 SH)</u>			
_____	___	___	___
<u>Visual/Performing Arts* (3 SH)</u>			
_____	___	___	___
<u>Social/Behavioral Sciences* (3 SH)</u>			
ECON 2304 Micro or ECON 2305 Macro	___	___	___
<u>Math/Reasoning (13 SH)</u>			
MATH 1313 Finite Math w/ Applications	___	___	___
MATH 1330 Precalculus	___	___	___
MATH 1431 Calculus I	___	___	___
TMTH 3360 Applied Tech Statistics	___	___	___
<u>Natural Sciences (6 SH)</u>			
PHYS 1301 Intro. Gen. Phys I	___	___	___
PHYS 1302 Intro. Gen. Phys II	___	___	___
Or GEOL 1330 Physical Geology	___	___	___

MAJOR REQUIREMENTS (65 SH)

	GR	SH	AH
ACCT 2331 Accounting Princ. I-Financial	___	___	___
CNST 1301 Construction Mat. & Methods	___	___	___
CNST 1361 Construction Management I	___	___	___
CNST 2321 Mech. & Electrical Systems	___	___	___
CNST 2341 Construction Documents	___	___	___
CNST 2351 Construction Estimating I	___	___	___
CNST 3185 Construction Experience	___	___	___
CNST 3205 Cnst. Safety Management	___	___	___
CNST 3301 Cnst. Equip. & Methods	___	___	___
CNST 3311 Structural Steel & Timber Cnst	___	___	___
CNST 3312 Project Finance & Economics	___	___	___
CNST 3331 Cnst. Planning & Sched.	___	___	___
CNST 3351 Construction Estimating II	___	___	___
CNST 3355 Cnst. Materials & Testing	___	___	___
CNST 3155 Construction Mat. & Test Lab	___	___	___
CNST 4265 Site Develop. & Env. Issues	___	___	___
CNST 4302 Construction Law & Ethics	___	___	___
CNST 4331 Construction Management II	___	___	___
CNST 4341 Project Controls	___	___	___
CNST 4372 Soil Mechanics & Foundations	___	___	___
CNST 4381 Reinf. Conc. & Bldg Codes	___	___	___
CNST 4290 Current Issues in Construction	___	___	___
MECT 2354 Intro to Mechanics	___	___	___
SURY 2361 Surveying I	___	___	___

Total hours required: 120 semester hours

DEPARTMENTAL & COLLEGE REQUIREMENTS

General Technology and College Core (6 SH)

CNST 1330 Graphics I	___	___	___
TELS 3363 Technical Comm.	___	___	___

36 advanced (3000- or 4000-level) semester hours must be completed.
For graduation with Honors, see Undergraduate Catalog.
Refer to class schedule for lists of courses that satisfy University requirements.

APPROVALS:

_____	Date
Student	
_____	Date
Advisor	
_____	Date
Department Chair	

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