

UC 11428 IIF
(Revised)

UNIVERSITY of
HOUSTON

College of Technology

Department of Construction Management

APPROVED DEC 07 2011
Received
11/17/2011

MEMO

To: Dr. Marcella Norwood, Undergraduate Academic Committee

From: Dr. Neil Eldin, Construction Management

Subject: Justification of Curriculum Changes in CM (2011-2012)

The growth of our Process & Industrial Track in Construction Management and the incorporation of the American Institute of Constructors (AIC) certification exam requirement in our BS in CM program prompted the faculty to make the following revisions to the curriculum:

1. Change pre-requisites in the following courses:
 - a. CNST 1325 Process & Industrial Construction: students need the skills learned in CNST 1361 and CNST 1330/1315 to excel in this course
 - b. CNST 2325 Process & Industrial Subsystems: correct a typo in the previously approved pre-requisite – change “1315” to “1325”
 - c. CNST 3155 Const. Material Testing: eliminate concurrent enrollment requirement – This lab class can be taken once students complete PHYS 1301 and MATH 1431, and not necessarily with CNST 3355
 - d. CNST 4385 Field Operations for Capital Projects: students need project proposal skills from CNST 4335 to take this course
2. Change course content/level:
 - a. CNST 1330 Graphics: eliminate unnecessary lab
 - b. CNST 3372 Soil Mechanics & Foundation: change from senior level (CNST 4372) to junior level (CNST 3372) to proceed taking the AIC exam
 - c. CNST 4311 Structural Steel & Timber Construction: change from junior level (3311) to senior level (4311) to better prepare our students for the AIC exam
 - d. CNST 4315 Steel Construction: change from junior level (3315) to senior level (4315) to better prepare our students for the AIC exam
 - e. CNST 4331 Construction Management II: add to the catalog description “Students are responsible for the AIC exam fees.”
 - f. CNST 4335 Capital Projects Development: change the title from “Leadership of Construction Projects” to “Capital Projects Development” to better reflect the course content; also add to the catalog description “Students are responsible for the AIC exam fees.”
3. New courses:
 - a. CNST 3210 Safety for Industrial Projects: a new knowledge area identified by our industrial advisory board.

110G Technology Annex
Houston, TX 77204-4021

713-743-4712 Phone
713-743-0620 Fax

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ments/construction-
management

YOU ARE THE PRIDE

Construction Management Major

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

The program offers two curricula: one desirable for Process and Industrial Construction and the other for Commercial Construction. Each provides a balanced mix of construction, engineering and business skills. 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, 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, business, and contract administration; and have skills for planning, estimating, scheduling, and evaluating project performance. The 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 the utilization of computer applications in construction management.

Our Construction Management graduates have knowledge and problem-solving skills to perform the following tasks:

1. Determine costs for construction projects, and evaluate cost performance
2. ; Interpret construction documents and standards;
3. Apply time value of money concepts for evaluation of alternatives;
4. Prepare project schedules;
5. Apply engineering design concepts for site development (soils and foundations, water distribution, waste-water collection, and storm-water drainage); and
6. Perform general 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 in construction management.

- Prepare graduates to pursue graduate degrees and life-long learning. Provide students with an opportunity to prepare for entry into the graduate Construction Management program.

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

Students pursuing a major in Construction Management must complete the following requirements in addition to the university core and general college requirements. Majors in Construction Management may use no grade below C- in junior and senior level courses to satisfy major degree requirements.

Construction Management Major Requirements

CNST 1361. Construction Management I
CNST 2351. Construction Estimating I
CNST 3185. Construction Experience
CNST 3301. Construction Equipment and Methods
CNST 3331. Construction Planning and Scheduling
CNST 3355. Strength of Construction Materials
CNST 3155. Construction Materials and Testing Lab
CNST 3372. Soil Mechanics and Foundations
CNST 4265. Construction Layout and Site Development
CNST 4302. Construction Law and Ethics

Students must choose either the Commercial Construction Track or the Process and Industrial Track.

Commercial Construction Track

CNST 1301. Construction Materials and Methods
CNST 1330. Graphics I
CNST 2321. Mechanical and Electrical Systems
CNST 2341. Construction Documents
CNST 3205. Construction Safety Management
CNST 3351. Construction Estimating II
CNST 4311. Structural Steel and Timber Construction
CNST 4331. Construction Management II

CNST 4341. Project Controls
CNST 4381. Reinforced Concrete and Building codes
Process and Industrial Track
CNST 1315. Project Drawings and Graphics
CNST 1325. Process and Industrial Construction
CNST 3210. Safety for Industrial Projects
CNST 2325. Process and Industrial Subsystems
CNST 2345. Contract Documents for Capital Projects
CNST 3365. Cost Estimating for Capital Projects
CNST 4315. Steel Construction
CNST 4335. Capital Projects Development
CNST 4345. Reinforced Concrete Structures
CNST 4385. Field Operations for Capital Projects
GPA for major will be calculated on the major requirements including the Commercial Construction or the Process and Industrial Track.

Program Requirements

Math/Reasoning

(10 SH which includes university core)

MATH 1313. Finite Mathematics with Applications

MATH 1330. Precalculus

MATH 1431. Calculus I

Natural Sciences

(8 SH which includes university core)

PHYS 1301/1101. Introductory General Physics I & Laboratory

PHYS 1302/1102. Introductory General Physics II & Laboratory

or

GEOL 1330/1130. Physical Geology & Laboratory

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

Program Requirements

12 SH

ACCT 2331. Accounting Principles I - Financial

ACCT 2332. Accounting Principles II - Managerial

COMM 1332. Fundamentals of Public Speaking

TELS 3363. Technical Communication

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

Degree awarded: Bachelor of Science

Major: Construction Management

CONSTRUCTION MANAGEMENT

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 _____

Math/Reasoning << (10 SH)

MATH 1313 Finite Math w/ Applications	_____	_____	_____
MATH 1330 Precalculus	_____	_____	_____
MATH 1431 Calculus I	_____	_____	_____

<< Students will be expected to place out of MATH 1310 by either Math Placement Exam, CLEP or have taken MATH 1310

Natural Sciences (8 SH)

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 (12 SH)

ACCT 2331 Accounting Princ. I-Financial	_____	_____	_____
ACCT 2332 Accounting Princ. II-Mang	_____	_____	_____
COMM 1332 Fund of Public Speaking	_____	_____	_____
TELS 3363 Technical Comm.	_____	_____	_____

Approved Business Electives (Choose 6 SH)

MANA 3335 Intro to Organizat Beh & Mang	_____	_____	_____
MARK 3336 Elements of Marketing Admin	_____	_____	_____
FINA 3332 Princ of Financial Mang	_____	_____	_____
SCM 3301 Service & Manufacturing Ops	_____	_____	_____

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

Construction Management students are encouraged to complete a minor in Business Administration by taking an additional Business course and meeting the College of Business minor requirements. See Bauer College of Business undergraduate minors.

MAJOR REQUIREMENTS (54 SH)

No grade lower than C- will be accepted for JR or SR
CNST courses taken after Summer 2007.

	GR	SH	AH
CNST 1361 Construction Management I	_____	_____	_____
CNST 2351 Construction Estimating I	_____	_____	_____
CNST 3185 Construction Experience	_____	_____	_____
CNST 3301 Cnst. Equip. & Methods	_____	_____	_____
CNST 3331 Cnst. Planning & Sched.	_____	_____	_____
CNST 3355 Strength of Const Materials	_____	_____	_____
CNST 3155 Strength of Const Materials Lab	_____	_____	_____
CNST 3372 Soil Mechanics & Foundations	_____	_____	_____
CNST 4265 Const. Layout & Site Dev	_____	_____	_____
CNST 4302 Construction Law & Ethics	_____	_____	_____

Choose either the Commercial or the Process & Industrial Track.

Commercial Construction Track

CNST 1330 Graphics I	_____	_____	_____
CNST 1301 Construction Mat. & Methods	_____	_____	_____
CNST 2321 Mech. & Electrical Systems	_____	_____	_____
CNST 2341 Construction Documents	_____	_____	_____
CNST 3205 Cnst. Safety Management	_____	_____	_____
CNST 3351 Construction Estimating II	_____	_____	_____
CNST 4311 Structural Steel & Timber Cnst	_____	_____	_____
CNST 4331 Construction Management II	_____	_____	_____
CNST 4341 Project Controls	_____	_____	_____
CNST 4381 Reinf. Conc. & Bldg Codes	_____	_____	_____

Process and Industrial Track

CNST 1315 Project Drawings & Graphics	_____	_____	_____
CNST 1325 Process & Ind Construction	_____	_____	_____
CNST 2325 Process & Ind Subsystems	_____	_____	_____
CNST 2345 Contract Documents Captl Proj	_____	_____	_____
CNST 3210 Safety Industrial Projects	_____	_____	_____
CNST 3365 Cost Estimating Capital Proj	_____	_____	_____
CNST 4315 Steel Construction	_____	_____	_____
CNST 4335 Leadership of Cnst. Projects	_____	_____	_____
CNST 4345 Reinforced Concrete Structures	_____	_____	_____
CNST 4385 Field Operations Capital Proj	_____	_____	_____

Total hours required: 120 semester hours

36 advanced (3000- or 4000-level) semester hours must be completed.
For graduation with Honors, see Undergraduate Catalog.

Student _____ Date _____

Advisor _____ Date _____

Department Chair _____ Date _____

CONSTRUCTION MANAGEMENT

UNIVERSITY of HOUSTON
COLLEGE OF TECHNOLOGY

ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE

NAME _____

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GENB 4350 Business Law & Ethics	_____	_____	_____
History/Government (12 SH)			
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)

_____	_____	_____	_____
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Visual/Performing Arts* (3 SH)

_____	_____	_____	_____
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Social/Behavioral Sciences (3 SH)

ECON 2304 Micro or ECON 2305 Macro	_____	_____	_____
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PHYS 1302/1102 Intro. Gen. Phys II & Lab	_____	_____	_____
Or GEOL 1330/1130 Physical Geology & Lab	_____	_____	_____

PROGRAM REQUIREMENTS (12 SH)

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TELS 3363 Technical Comm.	_____	_____	_____

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CNST 3185	Construction Experience	_____	_____	_____	_____
CNST 3205	Const. Safety Management	_____	_____	_____	_____
CNST 3301	Const. Equip. & Methods	_____	_____	_____	_____
CNST 3331	Const. Planning & Sched.	_____	_____	_____	_____
CNST 3355	Strength of Const Materials	_____	_____	_____	_____
CNST 3155	Strength of Const Materials Lab	_____	_____	_____	_____
CNST 4265	Const. Layout & Site Dev	_____	_____	_____	_____
CNST 4302	Construction Law & Ethics	_____	_____	_____	_____
CNST 4372	Soil Mechanics & Foundations	_____	_____	_____	_____

Choose courses from 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	_____	_____	_____

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APPROVALS:

Student _____ Date _____

Advisor _____ Date _____

Department Chair _____ Date _____