

Revised 7/23/07

PROPOSAL SUMMARY AND ROUTING FORM

Proposal Title: Add CONM 430, Delete BCTM 233, Add Prerequisite to CONM 222

Initiating Unit or Individual: Construction Technology and Management Department
Contact Person's Name: Edward Brayton e-mail: braytone@ferris.edu phone: 591-2370
Date or Term of Proposal Implementation: Fall 2009

- Group I - A – New degree/major or major, redirection of a current offering, or elimination of a degree, major or minor
- Group I - B – New minors or concentrations
- Group II - A – Minor curriculum clean-up and course changes
- Group II - B – New Course
- Group III - Certificates
- Group IV – Off-Campus Programs

Group/Individual	Signature	Date	Vote/Action *
Program Faculty			<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Department Faculty	<i>John Kantorowski</i>	2/18/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Department Head / Chair	<i>Edward Brayton</i>	2/18/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
College Curriculum Committee	<i>Lon McLean</i>	2/24/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Dean	<i>Debra Wolfe</i>	2/26/09	<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
University Curriculum Committee	<i>Paul [unclear]</i>	3/3/09	<input checked="" type="checkbox"/> Support 8-0 <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Senate	<i>Richard Stiffinger</i>	3/3/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Academic Affairs	<i>David [unclear]</i>	3/3/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support

* Support with Concerns or Not Support must include a list of specific concerns. Votes must be shown for faculty groups. Administrators check appropriate action taken.

To be completed by Academic Affairs		
_____ President (Date Approved)	_____ Board of Trustees (Date Approved)	_____ President's Council (Date Approved)

REC'D MAR 04 2009

1. Proposal Summary

(Summary is generally less than one page. Briefly: state what is proposed with a summary of rationale and highlights. Additional rationale may be attached.)

This proposal is to add a new course CONM 430 titled Construction Power and Process Plant Construction to the curriculum which responds to the construction advisory committee's suggestion. The students will have the option of choosing this course or CONM 423 Construction Management Professional Methods. Therefore, the total credit hours to graduate will not be changed.

Second, delete BCTM 233 from the Associate degree check sheet because we are now offering the CONM 430 course. Third, add the prerequisite CONM 211 Construction Quantity Estimating to CONM 222 Construction Administration. CONM 211 was a prerequisite to CONM 222 for over twenty years and the faculty voted unanimously to establish this prerequisite again because it is truly a prerequisite per discussions from the students.

2. Summary of All Course Action Required*

a. Newly Created Courses to FSU:

Prefix	Number	Title
CONM	430	Construction Power and Process Plant Construction

b. Courses to be Deleted From FSU Catalog:

Prefix	Number	Title
BCTM	233	Mechanical, Electrical and Plumbing Construction

c. Existing Course(s) to be Modified:

Prefix	Number	Title
CONM	222	Construction Administration

d. Addition of existing FSU courses to program

Prefix	Number	Title
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e. Removal of existing FSU courses from program

Prefix	Number	Title
BCTM	233	Mechanical, Electrical and Plumbing Construction

*Contact Senate Secretary or UCC Chair if spaces for additional courses are needed.

CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. Potential duplication of coursework is reason for consultation.

1. This completed form must be forwarded with the proposal to the chair/head of the department to be consulted.
2. The department must respond within 20 calendar days of receipt of this form to insure inclusion in the final proposal. The completed form is returned to the initiator and inserted into the proposal.

Failure to respond is interpreted as support for the proposal.

3. The Proposing Department must address any concerns raised by the department. This response will be in writing and be included in the proposal following the consultation form.

RE: Proposal Title Add CONM 430, Delete BCTM 233, Add Prerequisite to CONM 222

Initiator(s): Ed Brayton

Proposal Contact: Ed Brayton **Date Sent:** 02/18/2009

Department: Construction Technology and Management **Campus Address:** GRN 227
(Please print)

Responding Department: Architectural & Facilities Management

Chair/Head/Coordinator: Diane Nagelkirk **Date Returned:** 2/25/09

Based upon department faculty review on 2/25/09 (date), we

Diane Nagelkirk

- Support the above proposal.
 Support the above proposal with the modifications and concerns listed below.
 Do not support the proposal for the reasons listed below.

Comment regarding the impact this proposal has on scheduling, room assignments, faculty load, and prerequisites for your department. Use additional pages, if necessary.

FLITE SERVICES CONSULTATION FORM

To be completed by the liaison librarian and approved by the Dean of FLITE. All returned forms should be included in the proposal. **FLITE must respond within 20 calendar days of receipt of this form to insure that the form is included in the final proposal.**

FAILURE TO RESPOND IS CONSIDERED AS SUPPORT OF THE CHANGE.

RE: Proposal Title: Add CONM 430, Delete BCTM 233, Add Prerequisite to CONM 222

Projected number of students per year affected by proposed change: 60

Initiator(s): <u>Ed Brayton</u>	
Proposal Contact: Ed Brayton	Date Sent: 03/01/09
Department: <u>Construction Technology and Management</u> (Please print)	Campus Address: <u>GRN 227</u>

Liaison Librarian Signature: <u>Francesca Rosen</u>	Date: <u>3/2/09</u>
Dean of FLITE Signature: <u>John M. Moneys</u>	Date Returned: <u>3-3-09</u>

Based upon our review on 3/2/09 (date), FLITE concludes that:

- Library resources to support the proposed curriculum change are currently available.
- Additional Library resources are needed but can be obtained from current funds.
- Support, but significant additional Library funds/resources are required in the amount of \$_____.
- Does not support the proposal for reasons listed below.

Comment regarding the impact this proposal will have on library resources, collection development, programs, etc. Use additional pages if necessary.

FORM D – CURRENT CHECKSHEET

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT
with an Emphasis from Building Construction Technology or Civil Engineering Technology

Apply for Entry into the Bachelor of Science Degree In Construction Management.

I have passed Ferris' Math 120 or its equivalent with a C- or better. Also, I have a 2.30 GPA or above. I have completed all of my CONM & BCTM 100 and 200 level courses for entry into the Construction Management Bachelor degree program prior to taking any CONM 300 or 400 level courses. Finally, I have applied and I have a letter of approval from the construction department that I have been accepted into the program.

THIRD YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	311	Formwork and Temporary Structures	CONM 221	3
CONM	312	Construction Scheduling	CONM 222	3
ACCT	221	Principles of Construction Accounting	MATH 115	3
ENGL	311	Advanced Technical Writing	ENGL 211	3
MATH	132	Calculus for Business	MATH 120	3
THIRD YEAR - FALL SEMESTER CREDIT HOURS				15

THIRD YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	321	Construction Cost Estimating	CONM 211	3
CONM	324	Adv. Const. Computer Techniques	ISYS 105	3
BLAW	301	Legal Environment of Business		3
ECON	221	Economics		3
LAB/S	Choose One Laboratory Science from either, Chemistry, Geology, Physics or Physical Geography			
CHEM				4/5
GEOL	121			4
PHYS				4
GEOG	111			4
THIRD YEAR - SPRING SEMESTER CREDIT HOURS				16/17

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT
with Emphasis from Building Construction Technology or Civil Engineering Technology

FOURTH YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	412	Construction Contracts	ENGL 311 CONM 222	3
CONM	413	Construction Economics	MATH 120	3
CONM	423	Construction Management Professional Methods	ENGL 311 CONM 222	3
MGMT	300 +	Elective 300 or Above		3
C.E.	200	Cultural Enrichment Elective (200+)		3
COMM	121	Fundamentals of Public Speaking		3
FOURTH YEAR - FALL SEMESTER CREDIT HOURS				18

FOURTH YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	422	Construction Supervision & Safety	ENGL 311 CONM 222	3
CONM	499	Const Project Management	CONM 311, 312, CONM 321, 324	3
MKTG	321	Principles of Marketing		3
* C.E.		Cultural Enrichment Elective		3
* SA		Social Awareness Elective		3
FOURTH YEAR - SPRING SEMESTER CREDIT HOURS				15
CONM 300 & 400 LEVEL COURSES TOTAL CREDIT HOURS				64/65
B.S. CONSTRUCTION MANAGEMENT FROM BCTM TOTAL CREDIT HOURS				128/129
B.S. CONSTRUCTION MANAGEMENT FROM CETM TOTAL CREDIT HOURS				128/129

* Note: Students must complete 40 credits at or above the 300 level in bachelors programs.
A 300 level Social Awareness or Cultural Enrichment will fulfill this requirement.

FORM D – PROPOSED CHECKSHEET

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT
with an Emphasis from Building Construction Technology or Civil Engineering Technology

Apply for Entry into the Bachelor of Science Degree In Construction Management.

I have passed Ferris' Math 120 or its equivalent with a C- or better. Also, I have a 2.50 GPA or above. I have completed all of my CONM & BCTM 100 and 200 level courses for entry into the Construction Management Bachelor degree program prior to taking any CONM 300 or 400 level courses. Finally, I have applied and I have a letter of approval from the construction department that I have been accepted into the program.

THIRD YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	311	Formwork and Temporary Structures	CONM 221	3
CONM	312	Construction Scheduling	CONM 222	3
ACCT	221	Principles of Construction Accounting	MATH 115	3
ENGL	311	Advanced Technical Writing	ENGL 211	3
MATH	132	Calculus for Business	MATH 120	3
THIRD YEAR - FALL SEMESTER CREDIT HOURS				15

THIRD YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	321	Construction Cost Estimating	CONM 211	3
CONM	324	Adv. Const. Computer Techniques	ISYS 105	3
BLAW	301	Legal Environment of Business		3
ECON	221	Economics		3
LAB/S	Choose One Laboratory Science from either, Chemistry, Geology, Physics or Physical Geography			
CHEM				4/5
GEOL	121			4
PHYS				4
GEOG	111			4
THIRD YEAR - SPRING SEMESTER CREDIT HOURS				16/17

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT
with Emphasis from Building Construction Technology or Civil Engineering Technology

FOURTH YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	422	Construction Supervision & Safety	ENGL 311, CONM 222	3
CONM	413	Construction Economics	MATH 120 or 126	3
CONM	423	Construction Management Professional Methods	ENGL 311, CONM 222	3
		OR		
CONM	430	Power and Process Plant Construction	ENGL 311, CONM 311, BCTM 223, HVAC 337	
MGMT	300+	Elective 300 or Above		3
C.E.	200	Cultural Enrichment Elective (200+)		3
COMM	121	Fundamentals of Public Speaking		3
FOURTH YEAR - FALL SEMESTER CREDIT HOURS				18

FOURTH YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	412	Construction Contracts	ENGL 311, CONM 222	3
CONM	499	Const Project Management	CONM 311, 312, CONM 321, 324	3
MKTG	321	Principles of Marketing		3
C.E.		Cultural Enrichment Elective		3
SA		Social Awareness Elective		3
FOURTH YEAR - SPRING SEMESTER CREDIT HOURS				15
CONM 300 & 400 LEVEL COURSES TOTAL CREDIT HOURS				64/65
B.S. CONSTRUCTION MANAGEMENT FROM BCTM TOTAL CREDIT HOURS				128/129
B.S. CONSTRUCTION MANAGEMENT FROM CETM TOTAL CREDIT HOURS				128/129

FORM D CURRENT CHECKSHEET FROM AT

TRANSFER ENTRY INTO CONSTRUCTION MANAGEMENT
FROM FERRIS' ARCHITECTURAL TECHNOLOGY DEGREE (AAS)

PREREQUISITE TO ENTERING THE SECOND YEAR CONSTRUCTION COURSES
THIRD YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	122	Construction Surveying and Layout	C- or + in MATH 116 or MATH 120	3
CONM	211	Construction Estimating	ARCH 101 or CONM 116.; ARCH 115 or CONM 111, ARCH 102 or CONM 112. MATH 120 or 126	3
CONM	212	Soil & Foundations	ARCH 112 or CONM 121; MATH 120 or MATH 126	3
CONM	222	Construction Administration	ARCH 101 or CONM 116; ARCH 115 or CONM 111, ARCH 102 or CONM 112, MATH 120 or 126	3
ISYS	105	Intro to Micro Systems Software		3
MATH	126	Algebra and Analytic Trigonometry	MATH 116 C- or +	4
				19

Apply for Entry into the Bachelor of Science Degree in Construction Management

I have passed Ferris' Math 120 or Math 126 or its equivalent with a C- or better. Also, I have completed all of my CONM 100 and 200 level courses for entry into the Construction Management Bachelor degree program prior to taking any CONM 300 or 400 level courses. I have a 2.5 or higher GPA. Finally, I have applied and I have a letter of approval from the Construction Department that I have been accepted into the program.

THIRD YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	311	Formwork and Temporary Structures	CONM 221	3
CONM	312	Construction Scheduling	CONM 222	3
CONM	321	Construction Cost Estimating	CONM 211	3
CONM	324	Adv. Const. Computer Techniques	ISYS 105	3
ENGL	311	Advanced Technical Writing	ENGL 311	3
				15

FORM D CURRENT CHECKSHEET FROM AT

FROM FERRIS' ARCHITECTURAL TECHNOLOGY DEGREE (AAS)

FOURTH YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	413	Construction Economics	MATH 120 or 126	3
CONM	423	Construction Management Professional Methods	ENGL 311, CONM 222	3
ACCT	221	Principles of Construction Accounting		3
MATH	132	Calculus for Business	26 ACT or C- in MATH 120 or 126	3
LAB/S	Choose One Laboratory Science from: Chemistry, Geology, Physics or Physical Geography (GEOG 111)			4/5
				16.17

FOURTH YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	412	Construction Contracts	ENGL 311, CONM 222	3
BLAW	301	Legal Environment of Business		3
MGMT	3__ +	Elective 300 or Above		3
MKTG	321	Principles of Marketing		3
C.E.		Cultural Enrichment Elective		3
				15

FIFTH YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	422	Construction Supervision & Safety	ENGL 311, CONM 222	3
CONM	499	Construction Project Management	CONM 311,312,321, 324	3
C.E.	200+	Cultural Enrichment Elective (200+)		3
SA		Social Awareness Elective		3
ECON	221	Principles of Economics 1		3
				15

FORM D PROPOSED CHECKSHEET FROM AT

TRANSFER ENTRY INTO CONSTRUCTION MANAGEMENT
FROM FERRIS' ARCHITECTURAL TECHNOLOGY DEGREE (AAS)

PREREQUISITE TO ENTERING THE SECOND YEAR CONSTRUCTION COURSES
THIRD YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	122	Construction Surveying and Layout	C- or + in MATH 116 or MATH 120	3
CONM	211	Construction Estimating	ARCH 101 or CONM 116,; ARCH 115 or CONM 111, ARCH 102 or CONM 112, MATH 120 or 126	3
CONM	212	Soil & Foundations	ARCH 112 or CONM 121: MATH 120 or MATH 126	3
CONM	222	Construction Administration	ARCH 101 or CONM 116; ARCH 115 or CONM 111, ARCH 102 or CONM 112, CONM 211 , MATH 120 or 126	3
ISYS	105	Intro to Micro Systems Software		3
MATH	126	Algebra and Analytic Trigonometry	MATH 116 C- or +	4
				19

Apply for Entry into the Bachelor of Science Degree in Construction Management

I have passed Ferris' Math 120 or Math 126 or its equivalent with a C- or better. Also, I have completed all of my CONM 100 and 200 level courses for entry into the Construction Management Bachelor degree program prior to taking any CONM 300 or 400 level courses. I have a 2.5 or higher GPA. Finally, I have applied and I have a letter of approval from the Construction Department that I have been accepted into the program.

THIRD YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	311	Formwork and Temporary Structures	CONM 221	3
CONM	312	Construction Scheduling	CONM 222	3
CONM	321	Construction Cost Estimating	CONM 211	3
CONM	324	Adv. Const. Computer Techniques	ISYS 105	3
ENGL	311	Advanced Technical Writing	ENGL 311	3
				15

FORM D PROPOSED CHECKSHEET FROM AT

FOURTH YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	413	Construction Economics	MATH 120 or 126	3
CONM	423	Construction Management Professional Methods OR	ENGL 311, CONM 222	3
CONM	430	Power and Process Plant Construction	ENGL 311, CONM 311, BCTM 223, HVAC 337	
ACCT	221	Principles of Construction Accounting		3
MATH	132	Calculus for Business	26 ACT or C- in MATH 120 or 126	3
LAB/S	Choose One Laboratory Science from: Chemistry, Geology, Physics or Physical Geography (GEOG 111)			4/5
				16/17

FOURTH YEAR - SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	422	Construction Supervision & Safety	ENGL 311, CONM 222	3
BLAW	301	Legal Environment of Business		3
MGMT	3__+	Elective 300 or Above		3
MKTG	321	Principles of Marketing		3
C.E.		Cultural Enrichment Elective		3
				15

FIFTH YEAR - FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	412	Construction Contracts	ENGL 311, CONM 222	3
CONM	499	Construction Project Management	CONM 311,312,321, 324	3
C.E.	200+	Cultural Enrichment Elective (200+)		3
SA		Social Awareness Elective		3
ECON	221	Principles of Economics 1		3
				15

FORM D CURRENT CHECKSHEET

ASSOCIATES DEGREE IN BUILDING CONSTRUCTION TECHNOLOGY
into Bachelor of Science in Construction Management

FIRST YEAR FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	100	Orientation to Construction		1
CONM	116	Construction Graphics	C- or better in MATH 110 or ACT Placement of 19 or better	2
CONM	121	Materials, Properties/Testing	C- or better in MATH 110 or ACT Placement of 19 or better	3
ISYS	105	Intro to Micro Systems and Software		3
ENGL	150	English 1 (Placement)		3
MATH	115	College Algebra (Placement)		3
FIRST YEAR FALL SEMESTER CREDIT HOURS				15

I have passed Ferris' Math 115 or its equivalent with a C- or better for entry into First Year Second Semester.

FIRST YEAR SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	111	Construction Practices	CONM 116, MATH 115	3
CONM	112	Plans and Specifications	CONM 116, MATH 115	3
MATH	120	Trigonometry	MATH 115	3
ENGL	211	Industrial and Career Writing	ENGL 150	3
C.E.		Cultural Enrichment Elective		3
FIRST YEAR SPRING SEMESTER CREDIT HOURS				15

FORM D CURRENT CHECKSHEET

ASSOCIATES DEGREE IN BUILDING CONSTRUCTION TECHNOLOGY
into Bachelor of Science in Construction Management

I have passed Ferris' Math 120 or its equivalent with a C- or better. Also, I have a 2.00 GPA or above for entry into Second Year Fall Semester.

SECOND YEAR FALL SEMESTER

CONM	122	Construction Surveying and Layout	MATH 120	3
CONM	211	Construction Estimating	CONM 111, 112, MATH 120	3
BCTM	223	Mechanical/Electrical Plans	CONM 112	3
PHYS	211	Introductory Physics 1	MATH 120	4
CHOOSE ONE. If you want to take BCTM 233 instead of BCTM 213. Then choose the Social Awareness.				
BCTM	213	Wood/ Steel Framing and Finishes OR	CONM 111, 112, 116, MATH 120	3
S.A.		Social Awareness Elective		
SECOND YEAR FALL SEMESTER CREDIT HOURS				16

SECOND YEAR SPRING SEMESTER

CONM	212	Soil & Foundations	CONM 121, MATH 120	3
CONM	221	Statics and Strength of Materials	PHYS 211 Co-requisite, MATH 120	3
CONM	222	Construction Administration	CONM 111, 112, MATH 120	3
BCTM	225	Field Engineering w/ CAD	CONM 122, ISYS 105	3
HVAC	337	Mechanical & Electrical Systems		3
CHOOSE ONE. If you took BCTM 213 above. Then choose the Social Awareness.				
BCTM	233	Mechanical, Electrical, Plumbing Const	BCTM 223, CONM 111, 112	3
S.A.		Social Awareness Elective		
SECOND YEAR SPRING SEMESTER CREDIT HOURS				18
BCTM ASSOCIATES DEGREE TOTAL CREDITS				63

Apply for Entry into the Bachelor of Science Degree in Construction Management.

FORM D PROPOSED CHECKSHEET

ASSOCIATES DEGREE IN BUILDING CONSTRUCTION TECHNOLOGY
into Bachelor of Science in Construction Management

FIRST YEAR FALL SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	100	Orientation to Construction		1
CONM	116	Construction Graphics	C- or better in MATH 110 or ACT Placement of 19 or better	2
CONM	121	Materials, Properties/Testing	C- or better in MATH 110 or ACT Placement of 19 or better	3
ISYS	105	Intro to Micro Systems and Software		3
ENGL	150	English 1 (Placement)		3
MATH	115	College Algebra (Placement)		3
FIRST YEAR FALL SEMESTER CREDIT HOURS				15

I have passed Ferris' Math 115 or its equivalent with a C- or better for entry into First Year Second Semester.

FIRST YEAR SPRING SEMESTER

ABBR	NO.	COURSE DESCRIPTION	PREREQUISITES	CREDITS
CONM	111	Construction Practices	CONM 116, MATH 115	3
CONM	112	Plans and Specifications	CONM 116, MATH 115	3
MATH	120	Trigonometry	MATH 115	3
ENGL	211	Industrial and Career Writing	ENGL 150	3
C.E.		Cultural Enrichment Elective		3
FIRST YEAR SPRING SEMESTER CREDIT HOURS				15

FORM D PROPOSED CHECKSHEET

ASSOCIATES DEGREE IN BUILDING CONSTRUCTION TECHNOLOGY
into Bachelor of Science in Construction Management

I have passed Ferris' Math 120 or its equivalent with a C- or better. Also, I have a 2.00 GPA or above for entry into Second Year First Semester.

SECOND YEAR FALL SEMESTER

CONM	122	Construction Surveying and Layout	MATH 120	3
CONM	211	Construction Estimating	CONM 111, 112, MATH 120	3
BCTM	223	Mechanical/Electrical Plans	CONM 112	3
PHYS	211	Introductory Physics I	MATH 120	4
BCTM	213	Wood/ Steel Framing and Finishes	CONM 111, 112, 116, MATH 120	3
SECOND YEAR FALL SEMESTER CREDIT HOURS				16

SECOND YEAR SPRING SEMESTER

CONM	212	Soil & Foundations	CONM 121, MATH 120	3
CONM	221	Statics and Strength of Materials	PHYS 211 Co-requisite, MATH 120	3
CONM	222	Construction Administration	CONM 111, 112, CONM 211, MATH 120	3
BCTM	225	Field Engineering w/ CAD	CONM 122, ISYS 105	3
HVAC	337	Mechanical & Electrical Systems		3
S.A.		Social Awareness Elective		3
SECOND YEAR SPRING SEMESTER CREDIT HOURS				18
BCTM ASSOCIATES DEGREE TOTAL CREDITS				63

Apply for Entry into the Bachelor of Science Degree in Construction Management.

NEW COURSE INFORMATION FORM**Course Identification:**

Prefix:	Number	Title
CONM	430	Power and Process Plant Construction

Course Description:

Study of the construction and basic engineering design of power generating plants and process plants. Review of major equipment and facility requirements with plant layout and arrangement. Emphasis on construction of power and process plants including field construction, materials and methods as well as on-site management of the construction process.

Course Outcomes and Assessment Plan:

Students satisfactorily completing this course will be able to demonstrate the following:

1. Describe the demands and difficulties of construction large plant facilities.
2. Explain the basic sources of energy and types of power generation plants.
3. Identify the basic plant engineering principles.
4. Name the types of power plant equipment and piping systems.
5. Prepare a list of large scale construction activities.
6. Develop a large scale site and construction project management plan.

FORM E – NEW COURSE INFORMATION FORM

CONM 430 Power and Process Plant Construction

Course Outline including Time Allocation:

NO.	UNIT TOPIC DESCRIPTION SUMMARY	LECTURE HOURS	LAB HOURS
I.	Introduction and Orientation	1	0
II.	Basic Plant Engineering	3	0
III.	Sources of Energy	2	0
IV.	Power Systems	4	0
V.	Conventional Power Plants	3	0
VI.	Auxiliary Equipment	3	0
VII.	Process Plants	3	0
VIII.	Process Plants	3	0
IX.	Structural Systems	2	0
X.	Construction Erection	6	0
XI.	Site Management	5	0
XII.	Field Trips	3	0
XIII.	Guest Speakers	2	0
XIV.	Examinations	3	0
XV.	Holidays	2	0
	Total Hours	45	0

DELETE COURSE
Course Data Entry Form

FORM F

Delete Course
Rev. 7/23/07

I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term Fall Year 2009 See instructions.

II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:

Include the information that is in the current course database.

a. Course Prefix

BCTM

b. Number

233

c. Enter Contact Hours per week in boxes.

LECTure 2

LAB 2

INDEPENDENT Study – Check (x)

Practicum:

Seminar:

d. Full Course Title: Mechanical, Electrical and Plumbing Construction

UCC Chair Signature/Date:



3/3/09

Academic Affairs Approval Signature/Date:



3/15/09

Office of the Registrar use ONLY

Date Rec'd: ___ Date Completed: ___ Entered: SCACRSE ___ SCADETL ___ SCARRES ___ SCAPREQ ___

CREATE NEW COURSE
Course Data Entry Form

FORM F

Create New Course
Rev. 07/23/07

I. ACTION TO BE TAKEN: CREATE A NEW COURSE

Notes

1. Complete each item in Section I and Section II.
2. If this course is to be used as a prerequisite for other university courses, Form Fs that reflect the prerequisite change must be submitted for those courses as well.

Term Effective (6 digit code only): 200908 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**

Note: The first four digits indicate year, the next two digits indicate month in which term begins.

II. PROPOSED FOR NEW COURSE: Complete all sections a through r. See manual for clarification.

a. Course Prefix **CONM** b. Number **430** c. Enter Contact Hours per week in boxes.
LECTure 3 LAB **0** INDEPENDent Study – Check (x)
Practicum: Seminar:

d. Course Title: **Power and Process Plant Construction** (Limit to 30 characters/spaces.)

e. College Code: TE f. Department Code: **CTMG**
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

g. Type: Variable X Fixed h. Minimum Credit Hours **3** i. Maximum Credit Hours **3**

j. May Be Repeated for Added Credit: Check (x) Yes X No

k. Levels: Check (x) X Undergraduate Graduate Professional

l. Grade Method: Check (x) X Normal Grading Credit/No Credit only (Pass/Fail)

m. Does proposed new course replace an equivalent course? Check (x) Yes x No

n. Equivalent course: Prefix Number See instructions on Replacement courses.

o. **CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.
Study of the construction and basic engineering design of power generating plants and process plants. Review of major equipment and facility requirements with plant layout and arrangement. Emphasis on construction of power and process plants including field construction materials and methods as well as on-site management of the construction process.

p. Term(s) Offered: **Spring and Fall** (See instructions for listing.) q. Max. Section Enrollment: 30

r. **Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces. BCTM 223; HVAC 337; CONM 311; ENGL 311.**

UCC Chair Signature/Date:

 3/3/09

Academic Affairs Approval Signature/Date:

 3/15/09

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code
 Basic Skill (BS) General Education (GE) Occupational Education (OC) G.E. Codes

Office of the Registrar use ONLY

Date Rec'd: _____ Date Completed: _____ Entered: SCACRSE __ SCADETL __ SCARRES __ SCAPREQ __

Instructional Unit Topic Descriptions and Time Allocations

NO.	UNIT TOPIC DESCRIPTION SUMMARY	LECTURE HOURS	LAB HOURS
I.	Introduction and Orientation	1	0
II.	Basic Plant Engineering	3	0
III.	Sources of Energy	2	0
IV.	Power Systems	4	0
V.	Conventional Power Plants	3	0
VI.	Auxiliary Equipment	3	0
VII.	Process Plants	3	0
VIII.	Process Plants	3	0
IX.	Structural Systems	2	0
X.	Construction Erection	6	0
XI.	Site Management	5	0
XII.	Field Trips	3	0
XIII.	Guest Speakers	2	0
XIV.	Examinations	3	0
XV.	Holidays	2	0
	Total Hours	45	0

Learning Outcomes for Each Instructional Unit

Upon Completion of each instructional unit, the learner will be able to satisfactorily:

I.	<p>Introduction and Orientation</p> <p>A. Explain course goals, objectives and policies</p> <p>B. Describe course requirements and assessment</p> <p>C. Compare relevance of the course to the construction industry</p>
II.	<p>Basic Plant Engineering</p> <p>A. Describe the companies of power transmission</p> <p>B. Calculate power transmission needs</p>

Ferris State University
College of Technology

Course Outline

III.	<p>Sources of Energy</p> <p>A. List the types of fuels used in power generation facilities</p> <p>B. Name the types of alternate mechanisms used in power generation</p> <p>C. Describe the relative attributes of fuels used</p> <p>D. Calculate heating value of fuels</p> <p>E. Describe broad environmental concerns</p>
IV.	<p>Power Systems</p> <p>A. Name the types of power plant operating systems.</p> <p>B. Identify Major components of power generating systems.</p> <p>C. Interpret the power plant diagrams.</p> <p>D. Interpret process and instrumentation diagrams.</p>
V.	<p>Conventional Power Plants</p> <p>A. Identify the functions of major power generating equipment.</p> <p>B. Explain the characteristics of major power generating equipment.</p> <p>C. Describe the operation of major power generating equipment.</p>
VI.	<p>Auxillary Equipment</p> <p>A. Name the types of auxillary power generating equipment.</p> <p>B. Identify the best use of different piping materials and valve types.</p> <p>C. Calculate fan and pump horsepower.</p>
VII.	<p>Process Plants</p> <p>A. Identify the layout and major components of municipal treatment plants.</p> <p>B. Identify the layout and major components of pharmaceutical plants.</p> <p>C. Identify the layout and major components of food processing plants.</p> <p>D. Identify the layout and major components of manufacturing plants.</p> <p>E. Interpret site layout drawings.</p> <p>F. Develop a site logistics and lifting plan.</p>
VIII.	<p>Process Piping and Valves</p> <p>A. List materials and methods of pipe joining, installation, and testing.</p> <p>B. Explain materials and methods of valve installation and testing.</p> <p>C. Describe appropriate installation and testing techniques.</p> <p>D. Evaluate pipe testing records.</p> <p>E. Develop piping subcontract work.</p>
IX.	<p>Structural Systems</p> <p>A. Define types of foundations used for large equipment.</p> <p>B. Organize a concrete placement and testing plan.</p>
X.	<p>Construction Erection</p> <p>A. Determine issues of site logistics and delivery.</p> <p>B. Prepare a lifting plan for large equipment.</p> <p>C. Interpret shop drawings to supplement site placement planning.</p>
XI.	<p>Site Management</p> <p>A. Describe requirements of large site field engineering.</p> <p>B. Name the required elements of the commissioning process.</p> <p>C. Identify the required elements of the de-commissioning process.</p>

Course Outline

	D. Prepare a site management plant.
XII.	Field Trips A. Observe actual plant construction. B. Document lessons learned. C. Evaluate lessons learned from field trips.
XIII.	Guest Speakers A. Assess impact of information received. B. Apply information received to understanding of the construction industry.
	Final Examination

MODIFY COURSE
Course Data Entry Form

FORM F

Modify Course
Rev. 07/23/07

I. ACTION TO BE TAKEN: MODIFY AN EXISTING COURSE

Notes:

1. Complete all parts of Sections I and II; complete only those items in Section III that represent changes.
2. If either prefix or number is being changed, use 'Delete Course' and 'Create New Course' forms rather than this form.

a. List the changes to be made (See Proposed Changes a through p below): Add prerequisite CONM 211

b. Term Effective (6 digit code only): 200908 Examples: 200801(Spring), 200805(Summer), 200808(Fall)
Note: The first four digits indicate year, the next two digits indicate month in which term begins.

II. CURRENT: Include information that is in the current course database.

a. Course Prefix CONM b. Number 222 c. Enter Contact Hours per week in boxes.
LECTure 3 LAB 0 INDEpendent Study – Check (x)
Practicum: Seminar:

d. Course Title: Construction Administration

III. PROPOSED CHANGES: Complete only those boxes that represent proposed changes identified in Section I. Leave all other spaces blank.

a. Course Prefix b. Number c. Enter Contact Hours per week in boxes.
LECTure LAB INDEpendent Study – Check (x)
Practicum: Seminar:

d. Course Title: (Limit to 30 characters/spaces.)

e. College Code: TE f. Department Code: CTMG

Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

g. Type: Variable Fixed h. Maximum Credit Hours i. Minimum Credit Hours

j. May Be Repeated for Added Credit: Check (x) Yes No

k. Levels: Check (x) Undergraduate Graduate Professional

l. Grade Method: Check (x) Normal Grading Credit/No Credit only (Pass/Fail)

m. CATALOG DESCRIPTION – Limit to 75 words – PLEASE BE CONCISE.

n. Term(s) Offered: (See instructions for listing.) o. Max. Section Enrollment:

p. Prerequisites/Co-requisites/Restrictions: Limited to 100 spaces. CONM 211

UCC Chair Signature/Date: [Signature] 3/3/09

Academic Affairs Approval Signature/Date: [Signature] 3/3/09

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code
 Basic Skill (BS) General Education (GE) Occupational Education (OC) G.E. Codes

Office of the Registrar use ONLY
Date Rec'd: ___ Date Completed: ___ Entered: SCACRSE ___ SCADETL ___ SCARRES ___ SCAPREQ ___

Course Outline

Last Revision Date:	2/11/2009
Department Curriculum Committee Chair:	Ed Brayton

Course: CONM 222

Construction Administration

Credits: 3 Hours

Contacts: 3 Lecture, 0 Lab Hours per Week

Course Description: Field documentation and report development, including a project logic network, schedule, field reports, contract documents, contract change orders, subcontract agreements, purchase orders, payroll, ledgers and cost control reports. Methods of planning, materials procurement, completion of a standard subcontract agreement, records maintenance and progress reports.

Course Prerequisites: CONM 116 or ARCH 101, CONM 111 or ARCH 115, CONM 112 or ARCH 102, **CONM 211**, MATH 120 or MATH 126 with C- or better

Required Textbooks: Construction Project Administration Study Guide, Brayton
Plans and Specifications for a Building Project **OR** MDOT Standard Plans, Standard Specifications, Bid Documents and Project Plans for a Bridge and Road project.

Required Materials: None

Student Learning Outcomes

Upon completion of this course the student will be able to:

1. Identify the duties and responsibilities of members of the construction team, duties of the various crafts and draw an organizational chart displaying the relationships.
2. Develop a logic network with design, procurement and construction activities along with a crew utilization chart.
3. Search the construction documents and library references for pertinent resources.
4. Write change order proposals, a subcontract agreement, and complete a purchase order.
5. Complete the field weekly look-ahead plan including all resources required to complete the assigned tasks for the week.
6. Prepare cost control reports and cost code the items associated with the reports.

Instructional Unit Topic Descriptions and Time Allocations

NO.	UNIT TOPIC DESCRIPTION SUMMARY	LECTURE HOURS	LAB HOURS
I.	Introduction	1	0
II.	Construction Resources & Organization	2	0
III.	Means Book, CSI Format, Labor Costs, Productivity	2	0
IV.	Construction Documents	3	0
V.	Documents, Shop drawings, reference standards	3	0
VI.	Contract documents	3	0
VII.	Project planning activities and logic diagramming	3	0
VIII.	Construction scheduling	3	0
IX.	Subcontract Bid and trade instructions, agreement	3	0
X.	Procurement procedures	2	0
XI.	Field documentation and recordkeeping	3	0
XII.	Daily preplanning	3	0
XIII.	Productivity and cost reports	4	0
XIV.	Cost Coding and Ledgers	1	0
XV.	Evaluation	7	0
	Holidays	2	0
	Total Hours	45	0
	Final Examination—Cost coding, Ledgers, and Reports		

Course Outline

Learning Outcomes for Each Instructional Unit

Upon Completion of each instructional unit, the learner will be able to satisfactorily:

I.	Introduction A. Discuss the course objectives. B. Explain the assignment procedures.
II.	Construction Resources & Organization A. Describe the duties and responsibilities. B. Draw an organizational chart. C. Define the various crafts.
III.	Means Book, CSI Format, Labor Costs, Productivity A. Find the CSI number, Crew Size, Daily Output. B. Calculate the productivity rate, total work hours & days C. Calculate the daily crew costs, labor unit costs, equipment.
IV.	Construction Documents A. Describe the purpose of each document B. Search the documents for specific requirements
V.	Documents, Shop Drawings, Reference Standards A. Find the shop drawing procedures in the contract documents B. Find the reference standards, incorporated by reference C. Complete the search the documents assignment
VI.	Contract Documents A. Describe stop work orders, notices, schedule of values B. Compare the change order, change directive, and extra work C. Prepare a complete change order proposal D. Describe the documents that limit the cost of a change order
VII.	Project Planning Activities and Logic Diagramming A. Define the planning logic terminology B. List the design and procurement sequences C. Draw a design/build logic diagram for a wastewater project. D. Draw a time scaled network E. Develop a logic network for a project
VIII.	Construction Scheduling A. Define the scheduling terms B. Calculate the activity event times and the activity duration C. Calculate the effective Duration using multiple crews D. Determine the event times for a project
IX.	Subcontract Bid and Trade Instructions, Agreement A. Describe the content of the sub general bid instructions

Course Outline

	<ul style="list-style-type: none">B. Identify the content of the subcontract trade instructionsC. State the content of a complete subcontract bid scopeD. Name the content required to complete the enumerationE. Complete the subcontract agreement
X.	<p>Procurement Procedures</p> <ul style="list-style-type: none">A. Describe the procurement proceduresB. Describe the shipping and accounting termsC. Complete a purchase order and purchase order change
XI.	<p>Field Documentation and Record Keeping</p> <ul style="list-style-type: none">A. Identify the content of daily construction reportB. Identify the content of the job dairy and the legal rulesC. Complete the time cardD. Cite the proper CSI number for filing fields
XII.	<p>Daily Preplanning</p> <ul style="list-style-type: none">A. Identify the content areas of the preplanB. Complete all components of a preplanC. Describe the components for each major content area
XIII.	<p>Cost Coding and Ledgers</p> <ul style="list-style-type: none">A. Describe the Work Breakdown Structure (WBS)B. Cost code the work descriptionsC. Record the cost transactions into the ledger
XIV.	<p>Productivity and Cost Reports</p> <ul style="list-style-type: none">A. Describe how to ensure accuracy of the reportsB. Prepare the earned work hour report and the labor cost reportC. Prepare the project cost summary report
XV.	<p>Evaluation</p>
	<p>Final Examination</p>



Leonard Johnson/FSU
03/02/2009 11:53 AM

To Edward Brayton/FSU@FERRIS
Sandra L Alspach/FSU@FERRIS, Leonard
cc Johnson/FSU@Ferris, Andrew L Purvis/FSU@FERRIS,
Barbara A Ross/FSU@Ferris, Gregory
bcc
Subject Fw: CONM proposal

Hi Ed

If you have not yet done so already, please send a Form C over to Fran Rosen for inclusion in your recent curriculum proposal.

Thanks.
Leonard

Leonard R. Johnson, Ph.D
Professor
Ferris State University
1349 Cramer Circle
Big Rapids, Michigan 49307
(231) 591-2134
<http://www.ferris.edu/education/education>

----- Forwarded by Leonard Johnson/FSU on 03/02/2009 11:52 AM -----



Kristen L Motz/FSU
03/02/2009 11:33 AM


To Paula L Hadley-Kennedy/FSU@Ferris
Andrew L Purvis/FSU@FERRIS, Barbara A
Ross/FSU@FERRIS, Donald Flickinger/FSU@FERRIS,
Gregory Wellman/FSU@FERRIS, Harold G
cc Palmer/FSU@FERRIS, Joanne Gerst/FSU@FERRIS,
Leonard Johnson/FSU@FERRIS, Maureen
Milzarski/FSU@FERRIS, Ronald A
Mehringer/FSU@FERRIS, Sandra L Alspach/FSU@FERRIS,
Terrence J Doyle/FSU@FERRIS
Subject CONM proposal

The new course - CONM 420 - forces the proposal to have a completed Form C. I've contacted Fran Rosen, FLITE liaison, to see if CONM folk have been in touch with her, but the indications are they haven't sent a form over.

Kristy
Kristy Motz
Library Instruction Coordinator
140H FLITE
231-591-3625
motzk@ferris.edu



Kristen L Motz/FSU
03/02/2009 11:33 AM

To Paula L Hadley-Kennedy/FSU@Ferris
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cc Ross/FSU@FERRIS, Donald Flickinger/FSU@FERRIS,
Gregory Wellman/FSU@FERRIS, Harold G
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