Proposal

Online Construction Management Certificate

January 15, 2013
1. Description

a. Title, degree, description, and objectives

*Title and degree:* Construction Management Certificate through the Department of Construction Management (CM), College of Engineering, Louisiana State University, Baton Rouge, Louisiana. (CIP code of the degree: 52.2001 Construction Management).

*Description:* Construction is a very complex combination of processes, which involves the simultaneous application, coordination, and conversion of material, machines, manpower, and money into a finished project- the constructed facility. Subsequently, Construction Management is concerned with the effective organization and application of knowledge and skills to the business of construction.

The 2005, 2008, and 2012 hurricane seasons created natural disasters of enormous proportions, and the long-term impacts on the state of Louisiana are still unknown. Of particular interest is the impact on the construction industry, as this industry has been vital to the successful rebuilding and rehabilitation of the city of New Orleans and the other coastal regions damaged by the storm. By some estimates, 10 to 20 years of construction will be needed to restore the Louisiana communities. In fact, today even in a weak economy, our undergraduate
students generally have at minimum 1 job opportunity. During a strong economy, our students have 2 to 3 job opportunities. Hence, the growth in the industry demands technical construction managers that can oversee this construction effort. Louisiana has a strong construction background and today 9 of the top 400 US construction companies are Louisiana companies. In addition, research is needed to help our coastal communities prevent future building damage due to storms, build new buildings that are more energy efficient, and prevent future worker injuries in this naturally dangerous profession.

The primary objective of the proposed program is to make available to online students at Louisiana State University a certificate in construction management. The Certificate will be conferred upon students who demonstrate work of high merit that entails scholarship and outstanding academic achievement through six courses specifically designed for the program. Students who complete the requirements for the Certificate program will acquire a perspective on the role of Construction Management in both industry and society. Ultimately, both objectives will benefit the state of Louisiana and the nation by advancing the field of construction and creating future industry leaders.

The proposed online program will prepare career change graduate students (especially those architecture and business), qualified military personnel, or individuals with several years of construction experience for managerial positions within the industry. In addition, the establishment of a program of this type will be an asset to both the University and the State of Louisiana as this program will be the first of its kind in Louisiana. This will positively impact the region as well as the United States and abroad. It will provide industry with qualified individuals with skills sets developed using construction management core principles. Another advantage of creating a Certificate in Construction Management is that the establishment of such a program is consistent with the university’s academic role as Louisiana’s flagship university.

A Certificate degree program is projected in the Construction Management (CM) discipline to provide the human resources for the trained professionals needed by governmental agencies and the private sector.

b. List and describe the program curriculum (i.e., required courses), in sequence or term by term. Indicate new courses by an asterisk (*). Include any special requirements (internships, comprehensive examination, thesis, dissertation, etc.).

There will be six courses (18 credit hours) contained within the CM Certificate program. All are new courses (see Appendix A for course syllabi):

**CM 2101 Construction Materials, Methods, and Equipment** (3) Principal materials and methods used in building construction, emphasizing common construction systems such as light wood frames, masonry bearing walls, steel frames, and reinforced concrete. Project planning, work methods, materials, equipment and sustainability are also explored.

**CM 3111 Construction Estimating** (3) Fundamentals of estimating including document review, quantity survey, material, equipment & labor pricing and bid package preparation for construction projects.
CM 3401 Plumbing, HVAC & Electrical Systems* (3) Plumbing, HVAC and electrical systems in residential and commercial buildings; design and construction of building MEP systems with an emphasis on basic terminology, equipment and installation procedures. Management of the complete MEP process, code compliance and quality control issues from a CM perspective.

CM 3501 Structural Principles & Practices* (3). Statics and strengths of materials; design of ordinary timber, steel, and reinforced concrete for construction applications.

CM 4111 Construction Scheduling and Cost Control* (3) Fundamentals of planning and scheduling including network-based schedules, resource scheduling, probabilistic scheduling and computer applications. Project control emphasis on goals, flow of information, time and cost control, and change management.

CM 4211 Construction Contracting* (3) Principles and theory of construction company ownership and organization, the estimate and bid process, construction contracts, bonds, and insurance, business methods and plans, management, and administration, labor law and relations, safety, and avoidance of claims.

The online courses will be offered in 7 weeks sessions throughout the year:

| session# | Spring | | | | | Fall |
|----------|--------|---|---|---|---|
| Y1: 01-02 | Y1: 03-04 | Y1: 05-06 | Y1: 07-08 | Y1: 09-10 | Y1: 11-12 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **CERTIFICATE PROGRAM** | CM4111 | CM2101 | CM3111 | CM4111 | CM2101 | CM3111 |
| | CM4211 | CM3401 | CM3501 | CM4211 | CM3401 | CM3501 |

c. Describe how the proposed program will be offered, e.g., traditionally, online, via interactive video, hybrid, etc. Discuss possibilities for a cooperative program, cross-enrollment options, or other manners of sharing/extending resources and access.

The courses contained within the CM Certificate program will be offered online using Moodle. Dependent on instructor preference, delivery could be by webcast, PowerPoint slides with audio lecture inserts, audio/video captures, and/or electronic discussion boards. The CM Certificate program will be marketed by Academic Partnerships as a set of graduate leveling courses as per contract with LSU. Currently, in order to share/extend resources and access, the CM Department is undergoing a full curriculum review process to better facilitate course offerings for LSU undergraduate students and faculty loading. Plans are underway to streamline and
organize the CM undergraduate degree so it can also utilize these six courses. Completion of this project would also enable CM course delivery to the LSU Shreveport campus as directed by the state of Louisiana. The intent of the curriculum review is to maximize resources and leverage courses for various purposes (online, traditional, LSU-S, delivery, certificate program, and graduate leveling courses) while maintaining quality and accreditation.

d. Indicate any special requirements. If a graduate degree is contemplated, indicate if a thesis or dissertation is required and if not, what is substituted.

There are no special program requirements. Successful completion of the six courses earns the individual the CM Certificate.

e. Furnish documentation of the approval of the proposed program by the institution’s Governing Board.

Part 2. Need

a. Has the proposed program, or a similar one, been offered at the institution previously? (If the answer to this question is yes, give reasons for the termination of the earlier program.)

No certificate program in construction management has been offered previously at the Louisiana State University.

b. List similar programs offered at other institutions (public and private) in Louisiana. If a graduate program is requested, indicate similar programs in neighboring states.

No certificate level programs in Construction Management are offered in the state of Louisiana.

There is only one certificate program offered in a neighboring state:

<table>
<thead>
<tr>
<th>Institution</th>
<th>No. of Students</th>
<th>Program and Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Houston</td>
<td>62</td>
<td>Construction Management Certificate Program</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Department of Construction Management (online)</td>
</tr>
</tbody>
</table>

There are two others at major land grant institutions:

- Colorado State University 30 Construction Management Certificate Program Department of Construction Management
c. If similar programs exist in Louisiana, why is an additional program needed? Indicate manpower needs, including interest on the part of industry, academia, governmental agencies, or other institutions.

No similar program exists in the state of Louisiana.

In May 2006, the Bureau of Labor Statistics estimated that the construction industry as a whole accounted for 5.5% of all employments in the United States; 31% of total employment in the goods-producing sector of the economy, and 63% of all goods-producing establishments in the country. Also, nationally about 207,630 construction managers were employed within the construction industry of which about 2,870 were employed in the state of Louisiana; about 1.38% of the national total of employed construction managers (Bureau of Labor Statistics, 2007). The state of Louisiana is seeing growth in the construction industry in the 20+% rate according to the Louisiana Department of Economic Development. This growth is expected to continue for the next 5-10 years and possibly longer.

Faculty in the CM Department have been offering a short course program (sixteen 2 hour courses on various construction topics) implemented by the Louisiana Department of Economic Development. In three statewide sessions over two years (New Orleans to Monroe to Lake Charles), over 250 people have completed the program. This high demand for construction educational courses shows the growing demand in Louisiana. Many of these are professionals that already hold a Bachelor's degree. Other than this short course program, there are no in state alternatives for any other construction management education.

d. If a graduate program is requested, indicate:

Not applicable, a graduate program is not requested

i. State, regional, and national need in the field for more graduates. Cite any pertinent studies or national and state trends.

n/a

ii. Are there possibilities for cooperative programs?

n/a

e. If this program is approved, will its approval result in the termination of phasing out of existing programs? That is, could this program be considered a replacement program?

This program will not result in the termination or phasing out of any existing programs.
Part 3. Students

a. Project the enrollment and estimate the number of graduates expected for the proposed program for the first five years by level of student and with a justification for the projections.

Estimate number of enrollees is based on expressed industry interest and inquiries of similar certificate and CM graduate leveling programs in the US. Initial enrollment is estimated between 20-30 students. Effective marketing by Academic Partnerships should grow the program by 15 – 20 students per year. By the end of the fifth year, it is anticipated the enrollment number would be around 80 – 100+ students. Growth rates projections are conservatively based on the anticipated growth rate of the online MS in Construction Management, similar certificate/leveling programs at other universities, and the needs of the Louisiana construction industry.

b. Indicate the source of students from existing programs or students who might not otherwise be attracted to the institution.

This LSU CM Certificate program will attract various types of students at the national level due to it being offered online.

Outside of being a certificate program for various stakeholders, it is also a marketing tool that will bring new students into the LSU system who would desire to further their education with a B.S or M.S. in construction management (or even business). This online program is uniquely designed to attract new students across the US into the LSU system.

c. What preparation will be necessary for student to enter the program?

The minimal preparations is a high school diploma and at least three years of managerial construction experience; or a college degree (associate or bachelor); or enrollment in a graduate degree program.

d. Provide enrollment data for closely related programs currently offered at the institution. If the proposed program is an expansion of an existing program, give the past four years’ enrollments in existing programs by level, and number of degrees granted.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>BS in construction management (numbers do not include freshmen)</th>
<th>MS in Engineering Science (CM Concentration)</th>
<th>PhD in Engineering Science (CM concentration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-2005</td>
<td>422</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2005-2006</td>
<td>410</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Year</td>
<td>BS in construction management</td>
<td>MS in Engineering Science (CM Concentration)</td>
<td>PhD in Engineering Science (CM concentration)</td>
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<td>------------</td>
<td>-------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>2006-2007</td>
<td>416</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2007-2008</td>
<td>436</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2008-2009</td>
<td>436</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2009-2010</td>
<td>428</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2010-2011</td>
<td>408</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>2011-2012</td>
<td>349</td>
<td>7</td>
<td>15</td>
</tr>
</tbody>
</table>

**Degrees Granted**

**e. If a graduate program is requested, indicate sources of financial support for students.**

n/a

**Part 4. Faculty**

**a. List the present faculty members who will be most directly involved in the proposed program. Indicate for each faculty member: his name; date of appointment; present rank; degrees (by field) and the institutions granting them; present credits, contact hours, and student credit hours produced; and other assignments.**

List of the faculty members directly involved:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Degrees</th>
<th>Appointment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Berryman</td>
<td>Professor &amp; Department Chair</td>
<td>B.S. Building Construction</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.S. Construction Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ph.D., Texas A&amp;M University</td>
<td></td>
</tr>
<tr>
<td>Kirby Herbert</td>
<td>Professional in Residence</td>
<td>M.S. Civil Engineering</td>
<td>100% Teaching</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B.S. Civil Engineering</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B.S. Industrial Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of Louisiana at Lafayette</td>
<td></td>
</tr>
<tr>
<td>Stephanie Heumann</td>
<td>Instructor</td>
<td>B.S. Construction Management</td>
<td>100% Teaching</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Louisiana State University</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.S. Business Administration</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of Phoenix</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>w/ 16 years CM field experience</td>
<td></td>
</tr>
</tbody>
</table>
| Charles Pecquet | Instructor | M.S. Human Resource Education and Workforce Development  
B.A. History  
Louisiana State University | 100% Teaching |
|-----------------|------------|-------------------------------------------------------------|---------------|
| Emerald Roider  | Assistant Professor | Ph.D. Civil Engineering  
M.S. Engineering Science  
B.S. Industrial Engineering  
Louisiana State University | 50% Teaching  
50% Research |
| Donald Schneider | Instructor | J.D. Law  
Louisiana State University  
M.S. Civil Engineering  
M.S. Public Works Management  
University of Pittsburg  
B.S. Civil Engineering  
Louisiana State University | 100% Teaching |
| Dennis Spring   | Professional in Residence | M.S. Business Administration  
B.S. Construction Technology  
Louisiana State University | 100% Teaching |
| Gabe Trahan     | Instructor | Ph.D. Louisiana State University  
Master Business Administration  
B.A. Biological Sciences  
University of New Orleans | 100% Teaching |

*Student Credit Hours (SCH) varies based on type of course taught. Estimate based on 40 students per course, 8 courses per year for 100 % teaching – 960 SCH

**b. Calculate the present student-faculty ratio in the subject matter field or department in which the proposed program will be offered. The basis for this calculation should be full-time equivalent students and faculty and should be computed based on all students taught rather than the student majors or other related groupings.**

The Department of Construction Management has 14 faculty - 5 tenure/tenure track faculty, 5 Instructors, 2 Professionals-in-Residence and 2 part-time instructors. This growing collection of faculty combines their strengths and talents to meet the teaching, research, and outreach of the department while being actively supported by a large construction industry base. In addition, there are 3 staff members, 423 undergraduate students, and 25 graduate students. The present student-faculty ratio is 32:1 in the department.

**c. Project the number of new faculty members needed to initiate the proposed program for each of the first five years. If the proposed program will be absorbed in whole or part by present faculty, explain how this will be done.**

The CM Department is actively seeking to fill one open faculty position. Initially, the current faculty are starting the program with financial and technical support from the LSU online initiatives. As the program grows, it is anticipated the revenue stream (through LSU and Academic Partnerships) will provide for at least one full-time Instructor. When this online CM Certificate Program is fully employed and integrated into the CM undergraduate (LSU A&M and LSU-S campuses) and graduate degree, it will be self-supporting with at least 6 instructors, 2 graduate students, and one staff member.

**d. Explain if recruiting new faculty members will require an unusual outlay of funds or**
unique techniques. For example, will a special chair of instruction be required to attract a nationally recognized person?

No special, unusual, or unique recruiting activities or resources will be required.

e. Describe involvement of faculty, present and projected, in research, extension and other activities and the relationship of these activities to the teaching load.

Every full-time CM faculty member participates in research, teaching, and/or service. For those tenured or tenure track, the participation is required in all three areas. The majority of the tenure and tenure-track faculty will not be teaching the Certificate courses as it will be limited to the Professionals in Residence and Instructors. Schedules can be modified and sections combined to accommodate the start of the Certificate Program. Teaching load will remain the same.

f. If a graduate program is requested, indicate:

i. For present faculty, areas of specialized competence related to the new program. (List publications and their nature as well as direction of theses and dissertations.)

n/a

ii. For proposed new faculty, qualifications and/or strengths needed.

n/a

Part 5. Library and Other Special Resources

a. Are present library holdings in related fields adequate to initiate the proposed program?

Significant library resources are available online to support the proposed Construction Management Certificate program. These include the LSU Middleton Library, the Louisiana State Library and associated regional library connections (e.g., LOUIS) plus the web-based sources.

b. Will the library holdings need to be expanded and improved to meet program needs of the program in the first five years? If so, what types will be needed: books, periodicals, reference books, primary source materials, etc.?

Special expansion and improvement of the library holdings specific to the program will not be required.

c. Do other institutions have library resources being used or available to faculty and students for the proposed program?

Library resources from other institutions are available to faculty and students of the proposed programs through the Interlibrary Loans department at the LSU Middleton Library.

d. Indicate or estimate total expenditure for the last two completed fiscal years in library
acquisitions for the subject matter fields or departments in which the proposed program will be offered, or which are related to it.

No specific library resources were neither needed nor purchased by the department during the past two years.

e. Project library expenditures needed for the first five years of the proposed program.

No additional library expenditures will be needed.

f. What additional special resources, other than library holdings, will be needed?

No additional special resources will be needed.

g. If a graduate program is requested, indicate:
   i. Special library resources needed to offer a program of quality.

n/a.

i. How do library resources deemed desirable compare to other institutions with similar programs that are high quality? Cite specific comparisons of other institutions.

n/a

Part 6. Facilities and Equipment

a. Describe existing facilities (classrooms, laboratories, offices, etc.) available for the proposed program.

On campus classrooms and laboratories are not needed for the program as it is only offered online via Moodle. Seven rooms are currently utilized for administrative purposes. There are no plans to expand on this allocation.

b. Describe present utilization of these facilities where facilities are assigned to the department.

Faculty offices used for research, teaching, service or administrative purposes.

c. Indicate the need for new facilities, such as special buildings, laboratories, minor construction, remodeling, and fixed equipment. If special facilities and equipment will be needed, estimate cost and indicate proposed sources for financing.

No additional facilities are needed for the proposed program.

Part 7. Administration

a. In what department, division, school, college, or other designation will the proposed program be administered? Explain if the program is interdisciplinary and/or inter-
The proposed CM Certificate program in Construction Management will be administered in the department of Construction Management of the College of Engineering at Louisiana State University, Baton Rouge. The program is not interdisciplinary and/or inter-departmental in nature.

b. Indicate if the proposed program will affect the present administrative structure of the institution.

The proposed program will not affect the present administrative structure of the institution.

c. Described any special departmental strengths and/or weaknesses and how the proposed program will affect them.

A special strength of the Department is its teaching and its students. Historically, the CM is a teaching department with educators specializing the various components of construction management. All faculty who teach 100% have construction backgrounds allowing them to integrate their experiences into the coursework. With a strong industry support, this instruction becomes invaluable to the students and the department.

Part 8. Accreditation

a. Is the program eligible to be accredited? If so, give the name(s) of the accrediting agency(ies), requirements for accreditation, and how the criteria will be achieved.

Plans are have CM Certificate at LSU to granted Non-Degree Recognition status by the American Council for Construction Education (ACCE) as their Program. In response to the concept of quality education in construction, the ACEE has created a recognition program for non-degree, career related education programs. This effort to recognize the providers and programs which have a quality process and content is aimed at providing education other than skills training.

b. Delineate the initial costs of accreditation and subsequent annual cost.

The ACCE Non-Degree Recognition has a $100 initial application fee and a $250 fee for a self-study analysis. If the CM Certificate programs meets the 17 ACCE Standards, there is a $250 annual maintenance fee to keep the Recognition with a $350 renewal request after three years.

c. If a doctoral program is requested, describe the use of consultants in developing the proposed program and include a copy of their report as an appendix to the proposal. The use of consultants to assist in the development of such proposal is highly recommended, if not imperative.

n/a
Part 9. Related Fields

a. Indicate subject matter fields at the institution which are related to, or will support, the proposed program.

n/a

b. Evaluate the supporting fields and indicate if they need improvement. If so, indicate the extent of improvement needed and cost.

n/a

Part 10. Costs

a. Estimate costs of the proposed program for the first four years. Indicate any amounts to be absorbed out of current sources of revenue and needs for additional appropriations (if any). Indicate if federal or other sources of funds are available. Are there prospects for increased income from students recruited specifically to this program who otherwise would not have enrolled?

The CM Certificate program will be comingled with the LSU online MSCM program. Costs included 2 graduate students, course development/teaching, and one administrative staff totaling $100,000 in two years. See table below for detail projections.

b. Indicate departmental costs:
   i. Show departmental operating expenditures for the last two completed fiscal years for departments involved in or related to the proposed program.

See table below.

   ii. How will the proposed program affect the allocation of these funds?

The proposed program will not affect allocation of state funds.
c. Indicate if additional funds for research will be needed to support the propose program.

No additional fund will be needed for research. We have adequate lab space and resources to conduct cutting edge research in the various construction management related areas. Moreover, four new faculty positions hired within the last two years have research interests in the various construction management related fields.

d. Provide estimates of additional cost on the attached form.

There are no additional costs proposed for the programs.
January 10, 2013

Board of Regents
P.O. Box 3677
Baton Rouge, Louisiana 70898

Re: Support for the proposal of a "Construction Management Certificate Program"

Dear Board Members,

On behalf of the Louisiana State University Construction Industry Advisory Council (CIAC), I confirm our organization’s commitment and support for a Certificate Program in Construction Management proposed by the Department of the Construction Management.

The CIAC is comprised of construction leaders throughout the state and stresses the need to implement this program as soon as possible. With members from companies represented in the Fortune 500—several in the Top 400—construction companies ranked by Engineering News-Record and in the Top 100 Private Companies in Louisiana, CIAC represents companies that are nationally and internationally recognized and requires individuals that have the education and experience provided by such a certificate program. In addition, LSU would have the only certificate program in construction management in the state and help LSU achieve its objectives as the flagship university.

We strongly support this proposal and ask that the Board of Regents to approve the Construction Management Certificate Program.

Sincerely,

Theresa B. Jones
President

CIAC—Construction Industry Advisory Council
225/578-8756
P.O. Box 14902, Baton Rouge, La 70898
Justification for CM Online Leveling and Certificate Courses

The attached six courses will be offered as leveling courses for the recently approved online Master of Science in Construction Management Degree. To leverage resources, these same suite of courses are to be the core curriculum for the proposed CM Certificate program:

CM 2101 Construction Materials, Methods, and Equipment (3) Principal materials and methods used in building construction, emphasizing common construction systems such as light wood frames, masonry bearing walls, steel frames, and reinforced concrete. Project planning, work methods, materials, equipment and sustainability are also explored.

CM 3111 Construction Estimating (3) Fundamentals of estimating including document review, quantity survey, material, equipment & labor pricing and bid package preparation for construction projects.

CM 3401 Plumbing, HVAC & Electrical Systems (3) Plumbing, HVAC and electrical systems in residential and commercial buildings; design and construction of building MEP systems with an emphasis on basic terminology, equipment and installation procedures. Management of the complete MEP process, code compliance and quality control issues from a CM perspective.

CM 3501 Structural Principles & Practices (3). Statics and strengths of materials; design of ordinary timber, steel, and reinforced concrete for construction applications.

CM 4111 Construction Scheduling and Cost Control (3) Fundamentals of planning and scheduling including network-based schedules, resource scheduling, probabilistic scheduling and computer applications. Project control emphasis on goals, flow of information, time and cost control, and change management.

CM 4211 Construction Contracting (3) Principles and theory of construction company ownership and organization, the estimate and bid process, construction contracts, bonds, and insurance, business methods and plans, management, and administration, labor law and relations, safety, and avoidance of claims.

The purpose of these courses is to provide career change graduate with no-related academic backgrounds the basic fundamentals of construction management. This basic knowledge base is essential to those individuals planning a career in this discipline.

As noted in the CM Certificate proposal, there will be a need for additional support services including equipment and technical support as per the SACS requirement for online delivery, and as mandated by the Board of Supervisors and approved by the Academic affairs. These services are being provided by a collaboration of LSU, Academic Partnerships, and the College of Engineering. Financial details are found in previous section Part 10 – Costs.
REQUEST FOR ADDING, CHANGING, SUSPENDING
OR DROPPING AN
UNDERGRADUATE CURRICULUM

Department: Information System and Decision Sciences
College: E.J. Ourso College of Business
Name of Curriculum/Major: Information System and Decision Sciences
Type of Degree: B.S.
Date: 10/16/2012

Has this change been discussed with and approved by all departments/colleges affected? Yes (x) No ( ) N/A ( )

ATTACH JUSTIFICATION for all actions: Use separate sheet.
ATTACH RESPONSE from any departments affected [i.e. any department whose course(s) are to be added.]
ATTACH FORM D ADDENDUM for all new curricula or changes involving General Education courses.

ACTION (check appropriate box):

( ) ADDING: Show the entire new curriculum by year (freshman, sophomore, etc.) using catalog format. Use plain sheets and attach.

( X ) CHANGING: On a separate sheet of paper, include the current curriculum outline (all four years) which is to be changed in the left column and the proposed changes in the right column. In proposed column, use strikeout and bold to identify deletions and additions. Explain all changes adequately on attachment.

( ) SUSPENDING: Provide an adequate explanation for suspending the curriculum on plain sheets and attach.

( ) DROPPING: Provide an adequate explanation for dropping the curriculum on plain sheets and attach.

CURRICULUM

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current curriculum: 120</td>
<td>Total semester hours in proposed curriculum: 120</td>
</tr>
</tbody>
</table>

APPROVALS.

Department Faculty Approval Date: SEP 07 2012

Department Chair's Signature: [Signature]
(Date): 1/27/13

Chair, FS C & C Committee: [Signature]
(Date): 11/27/13

College Faculty Approval Date: 11/16/12

College Dean's Signature: [Signature]
(Date): 11/28/12

Academic Affairs Approval: [Signature]
(Date): 2/1/13

College Contact: ____________________________
(Please print name.)

College Contact E-mail: ______________________
# GENERAL EDUCATION REQUIREMENTS

When a department adds a new curriculum or makes changes in an existing one, a Form D Addendum must also be submitted. This form is simply a list of those courses in the curriculum that satisfy the General Education requirement. Include course rubric, number, and credit hours when curricula differ from the default values. Indicate the curriculum year for all General Education courses.

<table>
<thead>
<tr>
<th>General Education Requirement</th>
<th>Course(s)</th>
<th>Credit Hours</th>
<th>Curriculum Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition (6 hrs.)</td>
<td>ENGL 1001 or 1004</td>
<td>3</td>
<td>1st</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2nd</td>
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<td>3rd</td>
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<td>4th</td>
</tr>
<tr>
<td></td>
<td>ENGL 2000</td>
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<tr>
<td>(If 2 course sequence is taken in the physical sciences, the additional 3 hour course must be from the life sciences, and vice versa.)</td>
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</tbody>
</table>
Justification:

The field of Information Systems (IS) is constantly changing and based on recruiter and company feedback, there is a need for some IS students to be educated in Business Analytics.

We have responded to this requirement by creating 2 concentrations: one in Information Technology, which is essentially our current curriculum that has a programming and development focus, and one in Business Intelligence which has a data receiving and analytics focus. The curriculum was changed so that it can accommodate both concentrations.
<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
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<td>ISDS 1102 or 1101</td>
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<td>General education humanities course</td>
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<td>SEM. HRS.</td>
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<tr>
<td>Approved ISDS electives</td>
<td>6</td>
<td>Approved ISDS electives</td>
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At their December 4th, 2012 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the ISDS proposals:

**INFORMATION SYSTEM & DECISION SCIENCES CURRICULUM**
- The Committee returned the proposals to change the ISDS curriculum due to the return of the two proposals to add new concentrations.

**BUSINESS INTELLIGENCE AND INFORMATION TECHNOLOGY CONCENTRATIONS**
- The Committee returned the proposals to add the Business Intelligence and Information Technology concentrations. The total hours for the concentrations are not sufficient. The LSU General Catalog states, "An area of concentration is an alternative track of courses within a major, accounting for at least 30 percent of the major requirements." The Committee does not see what distinguishes the concentrations from one another; perhaps there should be an addition of approved electives that would differentiate the concentrations. The Committee also requests an explanation of why these courses should constitute the concentration. What makes these courses ideal for the concentration?

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastrl@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING UNDERGRADUATE CONCENTRATION

Department: Information Systems and Decision Sciences  
College: E J Ourso College of Business  
Name of Concentration: Business Intelligence  
Name of Curriculum/Major: Information System and Decision Sciences  
Type of Degree: Bachelor of Science  
Date: 10/16/2012  
Effective: 1/1/2014

Has this change been discussed with and approved by all departments/colleges affected?  
Yes (X)  No ( )  N/A ( )

ATTACH JUSTIFICATION for all actions: Use separate sheet. 
ATTACH RESPONSE from any departments affected [i.e., any department whose course(s) are to be added.]

ACTION (check appropriate box):

( X ) ADDING: List the entire catalog description of the new concentration. Use plain sheets and attach, if necessary.
( ) CHANGING: List present catalog description which is to be changed (left column) and the changes proposed (right column). In proposed column, use strikeout- and bold to indicate deletions and additions. Explain all changes adequately on attachment.
( ) SUSPENDING: Provide an adequate explanation for suspending the concentration on plain sheets and attach.
( ) DROPPING: Provide an adequate explanation for dropping the concentration on plain sheets and attach.

CONCENTRATION

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
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<tr>
<td>Total semester hours in current concentration:</td>
<td>0</td>
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</table>

**Required Courses** (9 hours) – ISDS 4112, ISDS 4141, ISDS 4180

APPROVALS:

Department Faculty Approval Date: SEP 07 2012  
Department Chair’s Signature:  
(Date) 1/22/13

Chair, FS C & C Committee:  
(Date)

College Faculty Approval Date: 11/16/12  
College Dean’s Signature:  
(Date) 4/28/13

Academic Affairs Approval:  
(Date) 4/11/13

College Contact:  
(Please print name.)

College Contact E-mail:  

(Please print E-mail address.)
Justification for Information Systems and Decision Sciences Course Changes

The field of Information Systems (IS) is constantly changing and based on company feedback, there is a need for some of the IS students to be educated in Business Analytics. Therefore our students will have the option to follow one of two concentrations:

1. Information Technology – this is essentially our current major, and has a programming and software development focus or
2. Business Intelligence – this is our new concentration and has a data receiving and analytics focus.
Anna M Castrillo

From: Lawrence J Rouse
Sent: Friday, January 04, 2013 11:56 AM
To: Anna M Castrillo
Subject: FW: New Concentrations in ISDS

Anna,

Happy New Year.

Dr. Schneider sent the email below in response to our questions about the ISDS concentrations. I believe he answered our questions. I don’t remember if we sent the proposals back or conditionally approved them.

Larry

From: Helmut Schneider
Sent: Friday, January 04, 2013 11:14 AM
To: Lawrence J Rouse
Subject: FW: New Concentrations in ISDS

Larry,
Here is a more detailed justification. If I need to put this on official letter head and send it through I can do that. Just let me know.
Happy New Year.
Helmut

Our traditional MIS program has concentrated on development of systems and its management. However, companies are facing an increased stream of data from the web and other resources. Finding business students who can properly make sense of the numbers and analyze the data has proven difficult for companies. Business schools need to help companies meet this growing demand by offering courses and concentrations in the area known as business analytics. Thus we created a new concentration in business intelligence which deals with these issues. The traditional development of systems program will be called the IT concentration to distinguish it from the BI concentration. Specifically,

1. 9 hours meets the 30% rule. The following courses are college requirements that occur in every business curriculum. ISDS 1102 or 1101 -- 3 hrs, ISDS 2000 or 2010, 2001 or 2011 -- 6 hrs, ISDS 3115 -- 3 hrs. This can be best seen from looking at the general business major. The ISDS MIS major has only 30 hours. 30% is 9 hours.
2. The two concentrations are very different.
   a. The IT concentration specializes in development of software. The courses ISDS 3200 (Advanced Business Programming), ISDS 4125 (Analysis and Design of Management Information Systems) and ISDS 4120 (Business Data Communications) are an ideal selection for a student who wants to work in the area of design and development of software applications. This concentration covers the analysis and design of systems, advanced programming and business data communications for software applications.
   b. The BI concentration specializes in business intelligence and analytics. The courses ISDS 4112 (Data Warehousing), ISDS 4141 (Introduction to Data Mining) and ISDS 4180 (Business Analysis in Practice) are an ideal selection for students who want to work in the area of business intelligence. The courses deal with topics in Business Intelligence such as data warehousing and application thereof.
      Analytics topics are covered in the data mining course and the capstone course ISDS 4180 will provide the student with practical business cases in BI and analytics. These topics are very different from the programming and development centered IT concentration.

Dr. Helmut Schneider
Associate Dean of Research and Economic Development
Ourso Family Distinguished Professor of Information Systems and
Chairman of Information Systems and Decision Sciences at LSU
Director of the Highway Safety Research Group
Louisiana State University, ISDS Department
BEC 2200A
Baton Rouge, LA 70803
Ph.: 225-578-2516
Fax: 225-578-2511
Homepage: http://isds.bus.lsu.edu
LA Traffic Crash Reports http://harg.lsu.edu

From: Lawrence J Rouse
Sent: Thursday, December 06, 2012 9:32 AM
To: Helmut Schneider; Anna M Castrillo
Cc: Ashley R Junek; Laurene L Hutchinson; Mary M Prescott
Subject: RE: Representative

Helmut,

I count a total of 39 hours in the ISDS curriculum. You must include the concentration courses in the total.

ISDS 1102 or 1101 -- 3 hrs
ISDS 2000 or 2010, 2001 or 2011 -- 6 hrs
ISDS 3100, 3107, 3110, 3115 or 3117, 4113 -- 15 hrs
ISDS Concentration Required courses -- 9 hrs
Approved ISDS electives -- 6 hrs

Larry

Lawrence Rouse
Chair, Courses & Curriculum Committee
1279 Energy, Coast, and Environment
Louisiana State University
Baton Rouge, LA 70803
225-578-3030

From: Helmut Schneider
Sent: Wednesday, December 05, 2012 5:16 PM
To: Anna M Castrillo
Cc: Lawrence J Rouse; Ashley R Junek; Laurene L Hutchinson; Mary M Prescott
Subject: FW: Representative

Anna,

I had planned to attend the meeting, but unfortunately the notice said December 6th which is tomorrow Thursday. I could have explained at the meeting that our undergraduate major has 30 hours of ISDS specific courses and 30% is 9 hours.

We have 9 hours in each of the two concentrations that are different. Should we have more than 30%?
I had described in the justification that one concentration is geared toward IS development and the other geared toward Business Intelligence.
Can you let me know when the next meeting is scheduled.

I hope I will have a chance to explain this in more detail at the next meeting of the C&C.
In the mean time I will write a longer justification explaining in more detail the rational for the two concentrations.
Also, let me know if we need more than 9 hours which is the minimum. If so, would it be sufficient to change “Approved ISDS electives .......6” to “Approved ISDS electives for concentration .......6” or “ Concentration specific approved electives”.

2
Thanks for your help.

**Helmut Schneider**
Associate Dean of Research and Economic Development  
Ourso Family Distinguished Professor of Information Systems and  
Chairman of Information Systems and Decision Sciences at LSU  
Director of the Highway Safety Research Group  
Louisiana State University, ISDS Department  
2200A BEC  
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LA Traffic Crash Reports [http://lhsc.lsu.edu](http://lhsc.lsu.edu)

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**From:** Ashley R Junek  
**Sent:** Friday, November 30, 2012 12:41 PM  
**To:** Helmut Schneider; Mary M Prescott  
**Subject:** FW: Representative

Helmut,

Do you have someone who can attend the C&C meeting next week?

Thanks,

Ashley

---

**From:** Ashley R Junek  
**Sent:** Friday, November 30, 2012 12:40 PM  
**To:** Ashley R Junek  
**Subject:** Representative

Ashley,

I would advise that someone from the ISDS department come to the C&C meeting on December 6th. That way they can answer any questions regarding the new concentrations.

The meeting is from 2:15-4:15 in 129 Himes Hall.

Please let me know if someone is coming, so I can push the items first on the agenda.

**Anna Castrillo**  
Coordinator  
Office of the University Registrar  
Louisiana State University  
112 Thomas Boyd Hall  
Phone: (225)578-4111  
Fax: (225)578-5991
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING UNDERGRADUATE CONCENTRATION

Department: Information Systems and Decision Sciences  College: E J Ourso College of Business  Date: 10/18/2012
Name of Concentration: Information Technology  Name of Curriculum/Major: Information Systems and Decision Sciences  Type of Degree: Bachelor of Science

Has this change been discussed with and approved by all departments/colleges affected? Yes (X)  No ( )  N/A ( )

ATTACH JUSTIFICATION for all actions: Use separate sheet.
ATTACH RESPONSE from any departments affected [i.e., any department whose course(s) are to be added.]

ACTION (check appropriate box):
( X ) ADDING: List the entire catalog description of the new concentration. Use plain sheets and attach, if necessary.
( ) CHANGING: List present catalog description which is to be changed (left column) and the changes proposed (right column). In proposed column, use strike-out and bold to indicate deletions and additions. Explain all changes adequately on attachment.
( ) SUSPENDING: Provide an adequate explanation for suspending the concentration on plain sheets and attach.
( ) DROPPING: Provide an adequate explanation for dropping the concentration on plain sheets and attach.

CONCENTRATION

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<thead>
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<tbody>
<tr>
<td>Total semester hours in current concentration: 0</td>
<td>Total semester hours in proposed concentration: 9</td>
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**Required Courses** (9 hours) – ISDS 3200, ISDS 4120, ISDS 4125

APPROVALS:

Department Faculty Approval Date: SEP 07 2012  
Department Chair’s Signature:  
(Date)  
Chair, FS C & C Committee:  
(Date)

College Faculty Approval Date: 11/16/12  
College Dean’s Signature:  
(Date)  
Academic Affairs Approval:  
(Date)

College Contact:  
(Please print name.)

College Contact E-mail:  

Justification for Information Systems and Decision Sciences Course Changes

The field of Information Systems (IS) is constantly changing and based on company feedback, there is a need for some of the IS students to be educated in Business Analytics. Therefore our students will have the option to follow one of two concentrations:

1. Information Technology – this is essentially our current major, and has a programming and software development focus or
2. Business Intelligence – this is our new concentration and has a data receiving and analytics focus.
Dear Members of Courses and Curricula Committees,

The School of Renewable Natural Resources (RNR) is requesting to drop our C or better policy and language referring to a C or better requirement for core courses in our curricula in Natural Resource Ecology and Management (NREM) and Forestry (FORM). The faculty voted and implemented this policy over a decade ago. The C or better policy is not working as intended and has caused problems in lengthening time to graduation and course overcrowding, while not increasing overall grade point average (hereafter GPA). Faculty voted 15 August 2012 to investigate the policy and remove the policy, if goals were not being met. The ad hoc committee determined this January that the policy has failed.

The main goal of our original C requirement, as stated in the catalog, was to ensure the quality of NREM graduates. The faculty believed that the requirement would focus student energy and attention to courses in pursuit of the C or better grade, better prepare students for graduate and professional programs where C grades are not acceptable, as well as, instill a sense that scholarship and high academic performance was expected. Given that the NREM program includes pre-professional programs for vet school or graduate school in numerous natural resource fields that require 3.0 or higher GPA for admission, we felt that it was a disservice to our students to allow them to remain in the major when their hopes for a career in natural resources are not promising. By setting C as the minimum, the faculty believed that students would work to achieve higher GPAs.

In practice, the C requirement is not achieving our anticipated results. The students on career paths that include graduate and professional schools are achieving A and B grades in our courses. Students not interested in graduate or professional schools, but are seriously pursuing technical employment in the field upon graduation are earning A, B, and C grades according to their ability. The remaining students, which are not inconsequential in number, are forced to repeat courses until a C is earned. Our data suggest that students repeating courses are not moving from D or F to A or B, but merely earn the C needed to move onward in the program. Since the policy’s inception, during any given academic year, approximately 5% of students in courses at the 2000-level or higher were repeating a course and displacing students following their recommended path. We foresee this number increasing as faculty losses (3 of 21 teaching faculty since 2007) and increasing enrollment (108 in 2007-2008 to 213 in 2012-2013 or a 97% increase) converge resulting in fewer available seats and less ability to accommodate repeating students.

Elimination of this policy will require an update of the general catalog on pages 97, 98, and 99. The policy appears in narrative text and in the curriculum descriptions. Thank you for your consideration.

D. Allen Birdwell

Director and Bryant A. Bateman Professor of Renewable Natural Resources
LSU School of Renewable Natural Resources
Phone: 225-578-4187
Email: druther@lsu.edu
227 Renewable Natural Resources Bldg • Baton Rouge • Louisiana • 70803-6200 • 225/578-4131 • Fax 225/578-4227
www.mnr.lsu.edu
Anna, M Castrillo

From: Jennifer Neal
Sent: Wednesday, January 23, 2013 9:43 AM
To: Anna M Castrillo
Subject: FW: C&C memo 1-22-2013

Anna,

Is the response below sufficient or do you need it in a memo?

Jennifer Neal
Coordinator of Student Services
College of Agriculture
Louisiana State University
138 Martin D. Woodin Hall
Baton Rouge, LA 70803
225-578-2083
Fax: 225-578-2526

Front: Michael D Kaller
Sent: Wednesday, January 23, 2013 9:42 AM
To: Jennifer Neal
Subject: RE: C&C memo 1-22-2013

“Students will now only need to meet the requirements for graduation in good standing as outlined by the faculty of the College of Agriculture and Louisiana State University.”

Mike Kaller, Ph.D.
Assistant Research Professor,
Coordinator, Undergraduate Programs,
and Associate Rectt, Agriculture Residence College
School of Renewable Natural Resources,
Louisiana State University Agricultural Center,
119 Renewable Natural Resources Bldg.
Baton Rouge, LA 70803
(225)578-0012 (phone)
(225)578-4144 (fax)
mkalle1@lsu.edu/mkaller@agcenter.lsu.edu

From: Jennifer Neal
Sent: Wednesday, January 23, 2013 8:50 AM
To: Allen Rutherford (druther@campus.lsu.edu)
Cc: Michael D Kaller
Subject: FW: C&C memo 1-22-2013
Please see the attached memo from the University C&C Committee requesting clarification on removing the C or better requirement.

Jennifer Neal

LSU
Coordinator of Student Services
College of Agriculture
Louisiana State University
138 Martin D. Woodin Hall
Baton Rouge, LA 70803
225-578-2083
Fax: 225-578-2526

From: Anna M Castrillo
Sent: Wednesday, January 23, 2013 8:49 AM
To: Jennifer Neal
Subject: C&C memo 1-22-2013

Jennifer,

Attached please find a memo from the Courses and Curricula Committee regarding the RNR policy change.

Sincerely,

Anna Castrillo
Coordinator
Office of the University Registrar
Louisiana State University
112 Thomas Boyd Hall
Phone: (225)578-4111
Fax: (225)578-5991
If the course fee is to go in the catalog, I believe C&C needs to approve it, but we should check with Dr. Reeve.

And I did get the RNR note. I spoke to Mike Kaller and they want to just remove the "C or better". They will monitor the average in the major to see if it falls below 2.0. So we can approve their request.

Larry,

Another question for you. I wasn't sure if course fees go through C&C and the specific process they should take. Do you?

Also, did you get to review the RNR email I sent you. I can send it again if you want.

Anna Castrillo
Coordinator
Office of the University Registrar
Louisiana State University
112 Thomas Boyd Hall
Phone: (225)578-4111
Fax: (225)578-5991

Anna Castrillo

From: Patricia B Beste
Sent: Thursday, January 24, 2013 1:51 PM
To: Anna M Castrillo
Subject: FW: adding a fee to a couple of classes

Anna,

Do you know the process for adding fees to courses? Is this something that goes to C&C?

Patricia B. Beste
Senior Associate Registrar
Office of the University Registrar
Louisiana State University
112 Thomas Boyd Hall
Baton Rouge, LA 70803
225-578-2072
225-578-5991 FAX
From: David N Rodriguez  
Sent: Thursday, January 24, 2013 12:45 PM  
To: Patricia B Beste  
Subject: adding a fee to a couple of classes

Patti,

We need to add a fee for class materials to a couple of our classes. So that it will appear on the student’s fee bill. How do we do this? Is this done with a course change form, do I contact the Bursas office? Would appreciate any guidance you can provide in this matter.

Thanks!

David Rodriguez  
Administrative Coordinator 4  
LSU Theatre  
105 M&D & A Bldg.  
Office: 225-578-3532  
Fax: 225-578-4135  
drod@lsu.edu
REQUEST FOR DROPING A COURSE

Department Civil & Environmental Engineering
College Engineering

Course rubric & no. CE 7110 Title Operations and Processes in Sanitary Engineering II
Semester hours of credit: 3.0

NOTE: Affected departments must be notified in writing and with adequate time allowed for written response(s).
Responses must be included with this form.

Has this drop been discussed with and approved by all departments/colleges affected? Yes (X) No ( ) N/A ( )
This course is presently included or referenced in the following curriculum, minor, concentration, area of
specialization, or catalog chapter:
(If additional space is needed, please attach a separate piece of paper.)

Is this course a prerequisite or corequisite for any other courses? Yes ( ) No (X)
If answer to above is yes, please list courses by rubric and course number.
(If additional space is needed, please attach a separate piece of paper.)

<table>
<thead>
<tr>
<th>Rubric</th>
<th>Course #</th>
<th>Rubric</th>
<th>Course #</th>
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Is this course on the general education list? Yes ( ) No (X)
If yes, attach approval of drop from General Education Committee

REASON FOR REQUEST TO DROP COURSE:
Replacing the course with a revised course that has a new title and course description, CE 7101. Form A for that course submitted with this packet.

APPROVALS:

Department Faculty Approval Date 10/31/12
Date

Chair's Signature: (Date)

Graduate Dean's Signature: (Date)

College Dean's Signature: (Date)

Chair, FS C&O Committee: (Date)

Academic Affairs Approval: (Date)

College Contact: (Please print name.)

College Contact E-mail:
**REQUEST FOR ADDITION OF NEW COURSE**

Please submit 17 copies of each request.

**Department:** Construction Management  
**Date:** 10/10/12

**College:** Engineering

**PROPOSED COURSE**  
**Short Title:** CONST MAT MET EQUIP  
**Rubric & No.:** CM 2101  
**Title:** Construction Materials, Methods, and Equipment

**COURSE CREDIT**  
**Graduate Credit:** 
YES  
NO  
**Semester Hours of Credit:** 3  
(For combination course types only: Lecture Hrs. Lab/Sem/Rec Hrs. Credit will not be given for this course and:)

**GRADING**  
**Final Exam:** 
YES  
NO  
**Grading System:** 
Letter Grade  
Pass/Fail  
(Attach justification if the proposed course will not hold a final exam during examination week.)

**COURSE TYPE**  
(Indicate hours in the appropriate course type)

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<tr>
<th>LEC/REC</th>
<th>LEC/SEM</th>
<th>LEC</th>
<th>LAB</th>
<th>LEC/LAB</th>
<th>SEM</th>
<th>CLIN/PRACT</th>
<th>RES/IND</th>
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<td>3</td>
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**Maximum enrollment per section:** 25  
(use integer, e.g. 25 not 20-30)

**CATALOG TEXT**  
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

1101 Construction Materials, Methods, and Equipment (3) Principal materials and methods used in building construction, emphasizing common construction systems such as light wood frames, masonry bearing walls, steel frames, and reinforced concrete. Project planning, work methods, materials, equipment and sustainability are also explored.

**BUDGET IMPACT**

If this course is approved, will additional staff be needed?  
YES  
NO

Will additional space, equipment, special library materials or other major expense be involved?  
YES  
NO

If answer to either question above is "YES" attach explanation.

**Academic Affairs Approval:**

**ATACHMENTS**  
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

**JUSTIFICATION:** Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses? No

**SYLLABUS:** Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria  
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

**APPROVALS**

**Department Faculty Approval:** 12/14/12  
**College Faculty Approval:** 1/11/13  
**Department Chair’s Signature:** 12/11/2012  
**College Dean’s Signature:** 1/15/13  
**Chair, FS C&C Committee:** 1/28/13

**Graduate Dean’s Signature (for 4000 level and above):** (date)

**College Contact:** Lisa Launey  
**College Contact E-mail:** egaun@eng.lsu.edu

**Academic Affairs Approval:** For 52B
LOUISIANA STATE UNIVERSITY

CM 2101: MATERIALS, METHODS, AND EQUIPMENT

INSTRUCTOR: Stephanie Heumann, MBA, 3135-B Patrick F. Taylor Hall, E-MAIL-sheumann@lsu.edu PH. 225.578.8856. Office hours by appointment. Available for online chat by appointment.

COURSE DESCRIPTION: 2101 Construction Materials, Methods, and Equipment (3) Principal materials and methods used in building construction, emphasizing common construction systems such as light wood frames, masonry bearing walls, steel frames, and reinforced concrete. Project planning, work methods, materials, equipment and sustainability are also explored.


REFERENCES:
2. Magazines:
   - N.A.H.B. Builder
   - Engineering News Record (ENR)

COURSE PURPOSE: This course is designed to provide the student with a basic knowledge of construction materials and to develop an understanding of the various types of building systems in concrete, masonry, wood, and steel.

COURSE OBJECTIVES AND OUTCOMES: Following successful completion of this course, it is expected that students will:
1. Gain an appreciation and understanding of the types of materials used in the construction process. How these materials are manufactured or processed, classified and graded, and their physical and mechanical properties.
2. Understand the specific characteristics including advantages and disadvantages of various building systems and components. Know how these building systems and components are erected, installed and integrated into the different types of buildings.

GRADING:

Your final grade in this course will be determined as follows:

Weekly Tests ............................................................5 @ 50 pts. 250 pts
Final Project ......................................................................................................................... 100 pts
Final Exam ............................................................................................................................ 200 pts
TOTAL ........................................................................................................................................ 550 pts

The Grading Scale will be as follows:

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>≥90.0</td>
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<td>B</td>
<td>80.0 – 89.9</td>
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<td>C</td>
<td>70.0 – 79.9</td>
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<td>D</td>
<td>60.0 – 69.9</td>
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<tr>
<td>F</td>
<td>≤ 59.9</td>
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## Course Schedule

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<tr>
<th>Week</th>
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<tr>
<td>1</td>
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<td>Course Introduction</td>
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<tr>
<td>1</td>
<td>2</td>
<td>Ch. 1 Making Buildings</td>
<td>pp. 3-27</td>
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<td>The Building Process, Codes</td>
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<td>1</td>
<td>3</td>
<td>Ch. 2 Foundations</td>
<td>pp. 31-83</td>
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<td>Soils, Excavation, Shallow and Deep Foundations, Waterproofing</td>
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<td>2</td>
<td>4</td>
<td>Ch. 13 Concrete Construction</td>
<td>pp. 515-551</td>
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<td>Cement and Concrete, Formwork and Reinforcing</td>
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<td>Ch. 14 Sitecast Concrete Framing Systems</td>
<td>pp. 553-574</td>
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<td>Slabs, One-Way Sitecast Systems</td>
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<td>Ch. 14 Sitecast Concrete Framing Systems</td>
<td>pp. 575-609</td>
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<td>Two-Way Sitecast Systems- Exam 1 Review</td>
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<td>Ch. 15 Precast Concrete Framing Systems</td>
<td>pp. 611-649</td>
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<td>Elements, Assembly, Concepts and Connection Details</td>
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<td>5</td>
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<td>Ch. 8 Brick Masonry</td>
<td>pp. 297-35</td>
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<td>Mortar and Brick</td>
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<td>Ch. 9 Stone &amp; Concrete Masonry</td>
<td>pp. 337-375</td>
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<td>Stone and CMU</td>
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<td>Ch. 10 Masonry Wall Construction</td>
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<td>Masonry Walls, Detailing and Joins</td>
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<td>EXAM 2</td>
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<td>Ch.3 Wood &amp; Wood Products</td>
<td>pp. 85-133</td>
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<td>Trees, Lumber and Wood Products</td>
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<td>Ch. 4 Heavy Timber Frame Construction</td>
<td>pp. 135-159</td>
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<td>Combustibility, Bracing, Building Services</td>
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<td>Ch 5 Wood Light Frame Construction</td>
<td>pp. 161-219</td>
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<td>Foundation, Floors, Walls, Rafters, Sheathing</td>
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<td>16</td>
<td>Ch 16 Roofing</td>
<td>pp. 651-705</td>
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<td>Low Slope and Steep Roof</td>
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<td>Ch. 12 Light Gauge Steel Frame Construction</td>
<td>pp. 489-513</td>
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<td>Ch. 11 Steel Frame Construction</td>
<td>pp. 411-487</td>
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<td>Materials, Joint Steel Members, Fabrication and</td>
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<td>GROUP PROJECT DUE.</td>
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<td>10</td>
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<td>Ch 17 Glass and Glazing</td>
<td>pp. 707-745</td>
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<td>Ch 19 Designing Exterior Wall Systems</td>
<td>pp. 783-807</td>
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<td>Cladding, Exterior Wall Concepts</td>
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<td>11</td>
<td>22</td>
<td>Ch 20 Cladding with Masonry and Concrete</td>
<td>pp. 809-837</td>
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<td>11</td>
<td>23</td>
<td>Ch 21 Cladding with Metal and Glass</td>
<td>pp. 839-867</td>
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<td>12</td>
<td>24</td>
<td>Ch 22 Selecting Interior Finishes</td>
<td>pp. 869-881</td>
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<td>Ch 23 Interior Walls &amp; Partitions</td>
<td>pp. 883-921</td>
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<td>13</td>
<td>26</td>
<td>Ch 24 Finishes Ceilings and Floors</td>
<td>pp. 923-955</td>
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<td>14</td>
<td>27</td>
<td>Final Exam Review</td>
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<td>14</td>
<td>28</td>
<td>FINAL EXAM</td>
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</tbody>
</table>
Final Project

The final project is a case analysis of a specified material covered in the class. The topic is selected by the student with instructor approval. It will be showcased within presentation slide and will be evaluated with a grading rubric.

Department Policies:
1. No make-up exams are offered in this course.
2. Students are expected to attend all classes. If absence is necessary, Instructor is to be notified before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation and questions are encouraged. They may positively influence grading decisions in borderline cases.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student’s responsibility to understand these regulations.
5. No food or drinks are allowed in CM classrooms. Any materials brought into the classroom by a student must be removed by that student – this includes newspapers and any other materials. It is everyone’s responsibility to keep our classrooms clean.

University Policies and Services:
Office of Disability Services
If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please see a staff member in the Office of Disability Services (112 Johnston Hall) so that such accommodations can be considered. Students that receive accommodation letters, please meet with me to discuss the provisions of those accommodations as soon as possible.

Other Statements are at:
Faculty Senate Courses and Curricula Committee

January 23, 2013

From: Lawrence Rouse, Chair, Courses and Curricula Committee

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION

- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “meters” and including course numbers and titles. The Committee also requested the editing of Part 4. Faculty for the inclusion of the asterisk in “Appointment”.

CM 2101

- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

CM 3111

- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401

- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the assignments component of the grading criteria.

CM 4111

- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the computer project component of the grading criteria.

CM 7030

- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

CM 7111

- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150
- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211
- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220
- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite, and determining how the course project will be assigned.

CM 7230
- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250
- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastr1@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management
College: Engineering

Date: 12/5/12

PROPOSED COURSE
Short Title: CONSTRUCTION ESTIMATING
Rubric & No: CM 3111
Title: Construction Estimating

COURSE CREDIT
Graduate Credit: X NO
Semester Hours of Credit: 3
(Lecture Hrs. Lab/Sem/Rec Hrs.)
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: X YES NO
Grading System: ___ Letter Grade ___ Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week)

COURSE TYPE
(Indicate number of the appropriate course type)

Maximum enrollment per section: 40
(use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)
3111 Construction Estimating (3) Fundamentals of estimating including document review, quantity survey, material, equipment & labor pricing and bid package preparation for construction projects.

BUDGET IMPACT
If this course is approved, will additional staff be needed? YES X NO
Will additional space, equipment, special library materials or other major expense be involved? X YES NO
(If answer to either question above is "yes" attach explanation.)
Academic Affairs Approval: ___ Date: ___

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses? No
SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students)

APPROVALS
Department Faculty Approval 12/14/12
College Faculty Approval 1/11/13

Department Chair's Signature 12/11/2012

College Contact: Lisa Launey
College Contact E-mail: eglaun@eng.lsu.edu

College Dean's Signature for 4000 level and above 1/24/13
Chair, FS C&C Committee 1/24/13
Academic Affairs Approval 2/1/13
Greetings Larry:

In reality, we have four estimating courses similar to CM 3111...residential estimating, commercial estimating, heavy highway estimating, and industrial estimating. Each is unique and germane to their respective construction type. As for a justification, it is about limited resources, leverage, and a better curriculum. The CM faculty recently reviewed all courses and discovered overlap (or commonalities) in each of these courses. It was determined that we needed to develop concentration areas for each construction type along with a set of core/base courses common to all concentrations. CM 3111 has been designed for multiple uses. It is not only an online leveling/certificate course but will soon be also to be the "base" or "foundation" course for each of these construction types. We are also working on a second "foundation" course CM 3211 for conceptual estimating, bid day, and subcontract analysis. When complete, these two new "estimating" courses will provide the general body of knowledge that students need prior to taking courses in one of the concentration areas. With commonalities inside these two foundation courses, the faculty will then modify the four specialty estimating courses with more depth and specifics.

By the end of March, we plan to have another set of curriculum proposals to C&C that removes unwanted courses, adds new courses, provides a transition, and integrates the online courses into our undergraduate CM degree program. By semester's end, I believe the faculty will be successful in revamping and streamlining the entire CM curriculum.

I hope this explanation helps. If you need more information or detail, please feel free to contact my direct office line 578-5369

Thank you,

Chuck

Charles W. Berryman, Ph.D., CPC
Department Chair and Professor
Chair of the Contractors Educational Trust Fund Professorship
Louisiana State University, College of Engineering
Construction Management Department
3128 Patrick F. Taylor Hall
Baton Rouge, LA 70803
Office: 225-578-6986
Direct: 225-578-5369
Fax: 225-578-5109
Charles,

Anna just informed me that CM already has a course (CM 3121) that has a title and catalog text very similar to that proposed for CM 3111. We were not aware of that similarity at the C&C Tuesday meeting. At the meeting, the committee conditionally approved CM 3111, but this new information requires that an expanded justification must be submitted. You will have to justify the need for the two courses and explain why the titles and catalog text must be so similar.

Give me a call if you need to discuss this.

Larry

Lawrence J. Rouse, PhD
Chair, Department of Environmental Sciences
1279 Energy, Coast, and Environment
Louisiana State University
Baton Rouge, LA  70803
225-578-3030
CM 3111
CONSTRUCTION ESTIMATING

TERM : Spring 2013
CLASS TIME : Section 1: Monday/Wednesday
& LOCATION : Section 2: Tuesday/Thursday

FACULTY : Dennis Spring
2514 B, Patrick F. Taylor Hall
csprin3@lsu.edu
225-578-9175

OFFICE HOURS : 10:00 am-Noon M T W TH

CATALOG COURSE : Fundamentals of estimating including document review, quantity survey, material,
DESCRIPTION equipment & labor pricing and bid package preparation for construction projects.

COURSE OBJECTIVES & OUTCOMES : To provide the student with the knowledge and skills to effectively examine
construction documents; generate the required quantities for construction procedures;
properly price the materials, labor & equipment associated with these quantities;
integrate sub-contractor quotes; and compile a complete bid package for a construction
project.
Following successful completion of this course, it is expected that students will:

Objective 1: be familiar with construction documents and the presentation of
construction project information.
Objective 2: be able to quantify various items of site work, concrete, masonry, steel,
carpentry, drywall, and finishes.
Objective 3: determine proper pricing of items of work including material &
equipment cost, labor estimates including productivity and efficiency factors.
Objective 4: analyze subcontractor bids and determine the most effective combination
of subs.
Objective 5: determine both project and office indirect and overhead costs for each
project.
Objective 6: compile and prepare complete bid for a construction project.

GRADE POLICY : Your final grade in this course will be determined as follows:

Test 1.............80 pts. 80 pts.
Test 2.............80 pts. 80 pts.
Test 3.............80 pts. 80 pts.
Test 4.............80 pts. 80 pts.
Test 5.............80 pts. 80 pts.
Final Project.....100 pts. 100 pts.
Final Exam.........200 pts. 200 pts.
Total.............700 pts. 700 pts.
GRADE SCALE:
A ≥ 90
B  80 - 89.9999
C  70 - 79.9999
D  60 - 69.9999
F ≤ 59.9999

COURSE MATERIALS AND RESOURCES:

Materials and Equipment - you will need a calculator, Architect's scale, Engineering pad and colored pencils. All of your Calculations for Tests 2-5 will need to be on Engineering paper. Failure to use Engineering paper will result in an additional minus 5 pts. on your Test(s)

Your Final Project will be marked as current and will be available at http://www.cmie.lsu.edu/cmie/coursesites/em3121/. The examples in your text can be used as a guide. You will need to turn in all calculations and a complete spreadsheet printout similar to the Estimating Sheets you will receive.

CM 3111 Course Outline & Assignment Sheet

(This Schedule is subject to change with notification by instructor)

COURSE OUTLINE*:

<table>
<thead>
<tr>
<th>WK.</th>
<th>MTG.</th>
<th>TOPIC</th>
<th>READING ASSIGNMENT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MTG. 1</td>
<td>Introduction to Estimating</td>
<td>Ch. 1, pp. 1-15</td>
</tr>
<tr>
<td>1</td>
<td>MTG. 2</td>
<td>Estimating Process</td>
<td>Ch. 2, pp. 17-33</td>
</tr>
<tr>
<td>2</td>
<td>MTG. 3</td>
<td>Measuring Quantities</td>
<td>Ch. 3, pp. 35-54</td>
</tr>
<tr>
<td>2</td>
<td>MTG. 4</td>
<td>TEST #1</td>
<td>Chapters 1, 2 &amp; 3</td>
</tr>
<tr>
<td>3</td>
<td>MTG. 5</td>
<td>Soils; Cut/fill</td>
<td>Ch. 4, pp. 55-65, Handout</td>
</tr>
<tr>
<td>3</td>
<td>MTG. 6</td>
<td>Trenching &amp; Piles</td>
<td>Ch. 4, pp. 62-77</td>
</tr>
<tr>
<td>4</td>
<td>MTG. 7</td>
<td>Site work Takeoff</td>
<td>Ch. 4, pp. 77-101</td>
</tr>
<tr>
<td>4</td>
<td>MTG. 8</td>
<td>Pricing Earthwork</td>
<td>Ch. 10, pp. 221-245</td>
</tr>
<tr>
<td>5</td>
<td>MTG. 9</td>
<td>Pricing Site work</td>
<td>Handouts</td>
</tr>
<tr>
<td>5</td>
<td>MTG. 10</td>
<td>TEST #2</td>
<td>Chapters 4 &amp; 10 (Earthwork)</td>
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<tr>
<td>6</td>
<td>MTG. 11</td>
<td>Measuring Concrete</td>
<td>Ch. 5, pp. 111-126</td>
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<td>6</td>
<td>MTG. 12</td>
<td>Pricing Concrete</td>
<td>Ch. 11, pp. 247-269</td>
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<tr>
<td>7</td>
<td>MTG. 13</td>
<td>Elevated Concrete</td>
<td>Handouts</td>
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<tr>
<td>7</td>
<td>MTG. 14</td>
<td>Pricing Concrete</td>
<td>Ch. 11, pp. 269-280</td>
</tr>
<tr>
<td>8</td>
<td>MTG. 15</td>
<td>Examples- Pricing Concrete</td>
<td>Handouts</td>
</tr>
<tr>
<td>8</td>
<td>MTG. 16</td>
<td>TEST #3</td>
<td>Chapters 5, 11 &amp; Handouts</td>
</tr>
<tr>
<td>9</td>
<td>MTG. 17</td>
<td>Measuring Masonry</td>
<td>Ch. 6, pp. 139-150</td>
</tr>
<tr>
<td>9</td>
<td>MTG. 18</td>
<td>Masonry Example</td>
<td>Handouts</td>
</tr>
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</table>
### CM3111: COURSE OUTLINE (cont.)

<table>
<thead>
<tr>
<th>WK.</th>
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<th>TOPIC</th>
<th>READING ASSIGNMENT^</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>MTG. 19</td>
<td>Pricing Masonry</td>
<td>Ch. 12, pp. 287-290, 295, 298-299 &amp; 312-313</td>
</tr>
<tr>
<td>10.</td>
<td>MTG. 20</td>
<td>TEST #4</td>
<td>Chapters 6 &amp; 12</td>
</tr>
<tr>
<td>11.</td>
<td>MTG. 21</td>
<td>Measuring/Pricing Steel</td>
<td>Handouts</td>
</tr>
<tr>
<td>11.</td>
<td>MTG. 22</td>
<td>Measuring/Pricing Steel</td>
<td>Handouts</td>
</tr>
<tr>
<td>12.</td>
<td>MTG. 23</td>
<td>Measuring/Pricing Steel</td>
<td>Handouts</td>
</tr>
<tr>
<td>12.</td>
<td>MTG. 24</td>
<td>TEST #5</td>
<td>Handouts</td>
</tr>
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<td>13.</td>
<td>MTG. 25</td>
<td>General Expenses</td>
<td>Ch. 14, pp. 335-355</td>
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<tr>
<td>13.</td>
<td>MTG. 26</td>
<td>Pricing General Expenses</td>
<td>Handouts</td>
</tr>
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<td>14.</td>
<td>MTG. 27</td>
<td>Close Out Costs &amp; Sub Prices</td>
<td>Handouts</td>
</tr>
<tr>
<td>14.</td>
<td>MTG. 28</td>
<td>REVIEW &amp; FINAL PROJECT DUE</td>
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</table>

^"In class" exercises will be given as needed.

### SCHEDULE OF DUE DATES*:

- TEST #1 (Ch.1, 2 & 3) ........................................... WK. 2, MTG. 4
- TEST #2 (Ch. 4 & 10) ........................................... WK. 5, MTG. 10
- TEST #3 (Ch. 5, 11 & Handouts) ............................... WK. 8, MTG. 16
- TEST #4 (Ch. 6 & 12) ........................................... WK. 10, MTG. 20
- TEST #5 (Struct. Steel Handouts) ............................. WK. 12, MTG. 24
- FINAL PROJECT .................................................. WK. 14, MTG. 28
- FINAL EXAM ...................................................... Per Final Exam Schedule

*These are the planned times for these events. They may change during the course of the semester. Any changes will be announced in class.

**NOTE:** Turn off all cell phones and pagers during class. No make-up exams (excuses for such are defined by the university regulations).
From: Lawrence Rouse, Chair, Courses and Curricula Committee

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION

- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “mater” and including course numbers and titles. The Committee also requested the editing of Part 4. Faculty for the inclusion of the asterisk in “Appointment”.

CM 2101

- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

CM 3111

- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401

- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the assignments component of the grading criteria.

CM 4111

- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the computer project component of the grading criteria.

CM 7030

- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

CM 7111

- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150

- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211

- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220

- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite, and determining how the course project will be assigned.

CM 7230

- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250

- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastr1@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at jrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management Engineering

College:

PROPOSED COURSE

Short Title: PLUMBING, HVAC & ELECT

Rubric & No.: CM 3401

Title: Plumbing, HVAC & Electrical Systems

COURSE CREDIT

Graduate Credit: ___ YES ___ NO

Semester Hours of Credit: 3

For combination course types only: Lecture Hrs. Lab/Sem/Rec Hrs.

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ______ credit hours.

Credit will not be given for this course and:

(Indicate rubrics and course numbers)

GRADING

Final Exam: ___ YES ___ NO Grading System: ___ Letter Grade ___ Pass/Fail

(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE

(Indicate hours in the appropriate course type)

/ LEC/REC / LEC/SEM / LEC / LAB / LEC/LAB / SEM / CLIN/PRACT / RES/IND

Maximum enrollment per section: 40 (use integer, e.g. 25 not 20-30)

CATALOG TEXT

(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

3401 Plumbing, HVAC & Electrical Systems (3) Plumbing, HVAC and electrical systems in residential and commercial buildings; design and construction of building MEP systems with an emphasis on basic terminology, equipment and installation procedures. Management of the complete MEP process, code compliance and quality control issues from a CM perspective.

BUDGET IMPACT

If this course is approved, will additional staff be needed? ___ YES ___ NO

Will additional space, equipment, special library materials or other major expense be involved? ___ YES ___ NO

(If answer to either question above is "yes" attach explanation.) Academic Affairs Approval: ____________________________ Date: ______

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curriculum. Will the course duplicate other courses? No

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria (For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS

Department Faculty Approval 12/14/12

(date)

Department Chair’s Signature

12/14/12

(date)

Graduate Dean’s Signature (for 4000 level and above) (date)

Lisa Launey

College Contact: ____________________________ (Please print name)

College Contact E-mail: eglaun@eng.lsu.edu

College Faculty Approval 11/1/13

(date)

College Dean’s Signature

11/1/13

(date)

Chair, FS C&C Committee 12/9/13

(date)

Academic Affairs Approval 1/1/13

(date)

Dean’s Signature 2/1/13

(date)
CM 3401 – Plumbing, HVAC and Electrical Systems

TERM: Spring 2013

CLASS TIME & LOCATION: Monday/Wednesday or Tuesday/Thursday
Patrick F. Taylor

FACULTY: Dennis Spring
2514 B, Patrick F. Taylor
csprin3.lsue.edu
Office phone 225 578-9175

OFFICE HOURS: 1330-1530 MW & 0800-1000 TTH.

WEBSITE: MOODLE

CATALOG COURSE DESCRIPTION: Plumbing, HVAC and Electrical Systems (3) Prereq. PHYS 2002, CM 2121. Plumbing, HVAC and electrical systems in residential and commercial buildings; design and construction of building MEP systems with an emphasis on basic terminology, equipment and installation procedures. Management of the complete MEP process, code compliance and quality control issues from a CM perspective.

COURSE OBJECTIVES & OUTCOMES: To provide the student with a working knowledge of the design decisions, equipment options, installation, and operations of the different building MEP systems. The student will build a knowledge base concerning: comfort, heat flow, types of heating/cooling equipment and their performance; water supply and wastewater concepts, building plumbing systems and fire protection systems; electrical basics, generation and distribution, electrical service, panels, circuits, and power & lighting equipment. Students will be able to apply this knowledge for design input and the management of MEP system installation during building construction.

Following successful completion of this course, it is expected that students will:
Objective 1: understand the basic terminology related to MEP systems
Objective 2: understand basic MEP design concepts
Objective 3: be able to analyze the required functions of the MEP systems
Objective 4: be able to evaluate the overall requirements for installation of MEP systems
Objective 5: be able to create a management process to successfully incorporate MEP systems in a construction project
COURSE MATERIALS

Text Book: Design of Mechanical and Electrical Systems in Buildings by Frederick J. Trost and Ifte Choudhury

RESOURCES

Topics: Psychrometrics
Heat Loss/Gain
Heating /Cooling Equipment
Building Air Conditioning
Ductwork, Registers, Fans, Air Distribution
Water Supply & Wastewater
Building Plumbing
Plumbing Examples: Residential & Commercial
Water Supply for Fire protection & HVAC
Electrical Basics
Generation & Distribution
Residential & Commercial Electrical
Electrical Example: Office Building
Code applicability

Grading - Your final grade in this course will be determined as follows:

Quizzes ..................... 5 @ 10 pts. = 50 pts.
Assignments .................. 10 @ 5 pts. = 50 pts.
Exams ....................... 3 @ 100 pts. = 300 pts.
Final Exam .......................... 100 pts.
Total Points .................. 500 pts.

1. Quizzes will be unannounced and spaced throughout the semester.
2. Assignments are spaced throughout the course. Due dates are as shown on the course outline.
3. Exams will be as scheduled (see course outline) UNO.
4. The Final Exam will be comprehensive.

Grading Scale:

90-100 A
80-89.99 B
70-79.99 C
60-69.99 D
0-59.99 F

Schedule of Exams:

Exam #1- HVAC Chap. 14-18 & Guest Lectures Week 5, Mtg. 10
Exam #2- Plumbing Chap. 22, 24-26 & Guest Lectures Week 10, Mtg. 19
Exam #3- Electrical Chapters 4, 8-12 & Guest Lectures Week 14, Mtg. 27

Final Exam- Per Final Exam Schedule

University Holidays:
Mardi Gras-aa/bb/cc; Spring Break-dd/ee/cc thru dd/ff/cc
## CM 3401: COURSE OUTLINE:

<table>
<thead>
<tr>
<th>WK.</th>
<th>MEETING</th>
<th>TOPIC</th>
<th>READING ASSIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>MTG 1</td>
<td>Terms, Comfort &amp; Psychrometrics</td>
<td>Chap. 14, pp. 190-195</td>
</tr>
<tr>
<td>1.</td>
<td>MTG 2</td>
<td>Heat Loss &amp; Gain</td>
<td>Chap. 15, pp. 198-211</td>
</tr>
<tr>
<td>2.</td>
<td>MTG 3</td>
<td>Heat Loss &amp; Gain</td>
<td>Chap. 15, pp. 211-223</td>
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<td>2.</td>
<td>MTG 4</td>
<td>Heating &amp; Cooling Equipment Assignment #1 Due</td>
<td>Chap. 16, pp. 227-243</td>
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<tr>
<td>3.</td>
<td>MTG 5</td>
<td>Building Air Conditioning</td>
<td>Chap. 17, pp. 245-259</td>
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<tr>
<td>3.</td>
<td>MTG 6</td>
<td>Air Distribution</td>
<td>Chap. 18, pp. 261-280</td>
</tr>
<tr>
<td>4.</td>
<td>MTG 7</td>
<td>Building HVAC; A Mechanical Engineering Concept</td>
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<tr>
<td>4.</td>
<td>MTG 8</td>
<td>Building HVAC; A Mechanical Subcontractor’s View</td>
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<tr>
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<td>Assignments #2 &amp; #3 Due</td>
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<tr>
<td>5.</td>
<td>MTG 9</td>
<td>Review for Exam #1</td>
<td></td>
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<tr>
<td>5.</td>
<td>MTG 10</td>
<td>Exam #1- HVAC</td>
<td>Chap. 14-18 &amp; Guest Lectures</td>
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<tr>
<td>6.</td>
<td>MTG 11</td>
<td>Water Supply &amp; Wastewater</td>
<td>Chap. 22, pp. 318-335</td>
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<tr>
<td>6.</td>
<td>MTG 12</td>
<td>Building Plumbing</td>
<td>Chap. 24, pp. 352-371</td>
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<td>Assignment #4 Due</td>
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<td>7.</td>
<td>MTG 13</td>
<td>Plumbing Examples</td>
<td>Chap. 25, pp. 372-383</td>
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<td>Plumbing Examples</td>
<td>Chap. 25, pp. 384-395</td>
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<td>8.</td>
<td>MTG 15</td>
<td>Water Supply for Fire &amp; HVAC</td>
<td>Chap. 26, pp. 397-408</td>
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<td>MTG 16</td>
<td>Building Plumbing; A Mechanical Engineering Concept</td>
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<td>Assignments #5 &amp; #6 Due</td>
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<tr>
<td>9.</td>
<td>MTG 17</td>
<td>Building Plumbing; A Mechanical Subcontractor’s View</td>
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<td>9.</td>
<td>MTG 18</td>
<td>Review for Exam #2</td>
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<td>10.</td>
<td>MTG 19</td>
<td>Exam #2- Plumbing</td>
<td>Chap. 22, 24-26 &amp; Guest Lectures</td>
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<tr>
<td>10.</td>
<td>MTG 20</td>
<td>Electrical Basics</td>
<td>Chap. 8, pp. 112-117</td>
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<td></td>
<td>Assignment #7 Due</td>
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</tr>
<tr>
<td>11.</td>
<td>MTG 21</td>
<td>Generation &amp; Distribution</td>
<td>Chap. 9, pp. 119-125</td>
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<td>11.</td>
<td>MTG 22</td>
<td>Residential Electrical</td>
<td>Chap. 10, pp. 127-139</td>
</tr>
<tr>
<td>12.</td>
<td>MTG 23</td>
<td>Commercial Electrical</td>
<td>Chap. 11, pp. 141-149</td>
</tr>
<tr>
<td>12.</td>
<td>MTG 24</td>
<td>Example Office Building, An Electrical Engineering Concept</td>
<td>Assignments #8, #9 &amp; #10 Due</td>
</tr>
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CM 3401: COURSE OUTLINE: (cont.)

<table>
<thead>
<tr>
<th>WK.</th>
<th>MEETING</th>
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<tr>
<td>13.</td>
<td>MTG 25</td>
<td>Example Office Building, An Electrical Subcontractor’s View</td>
<td>Chap. 12, pp. 151-181</td>
</tr>
<tr>
<td>13.</td>
<td>MTG 26</td>
<td>Review for Exam #3</td>
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<td>14.</td>
<td>MTG 27</td>
<td>Exam #3- Electrical</td>
<td>Chapters 4, 8-12 &amp; Guest Lectures</td>
</tr>
<tr>
<td>14.</td>
<td>MTG 28</td>
<td>Review for Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

Department/Course Policies:

1. Make-up Quizzes are only allowed for excused absences as defined by University regulations. All excuses must be provided to the instructor within seven (7) days of the missed quiz.
2. Students are expected to attend all classes. If absence is necessary, notify the instructor before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation and asking questions are encouraged.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student’s responsibility to understand these regulations.
5. No eating, drinking, tobacco products, gum, magazines, or newspapers are allowed in CM classrooms.
6. Turn cell phones off, or place on the silent mode.
7. Assignments are due on the dates given on the assignment. Chapter and section assignments in the text include review questions by default. This may be subject to change by the instructor.
8. A missed exam results in a grade of zero, unless an acceptable excuse is documented in a timely manner and is an officially valid reason as outlined by university policy (see LSU PS-22), and appears acceptable to the instructor (see PS – 48). The instructor reserves the right to administer the missed exam or the final exam may be administered with a greater weighted percentage for the student. A timely manner is within 7 calendar days.
9. No computers, cell phones, graphing or programmable calculators or other electronic communication devices are allowed when taking closed book quizzes or tests, unless prior approval has been received from the instructor for that test.
10. Quizzes will not be previously announced. Quizzes will be closed book. There will be useful/necessary information with each Quiz.
11. A missed quiz results in a grade of 0 for that quiz, unless excused.
12. Each and every student is entitled to as much consultation time as may be required. To preserve the privilege of obtaining individual assistance, each student is expected to attend class regularly.
13. It is the student’s responsibility to ascertain that grades are correctly recorded. If a grade is incorrect, the student may have it corrected by informing the instructor of the error. The student should make such notification in a timely manner.
Classroom Civility

Students are expected to assist in maintaining a classroom environment that is conducive to learning. To create an environment in which learning is the primary objective, students are asked to refrain from disruptive behaviors, tardiness, leaving early, sleeping, prolonged visiting with other students, and making inappropriate or offensive remarks. This is not a comprehensive list – in general, treat the instructor and other class members with respect.

Office of Disability Services

If you have a disability that may have some impact on your work in this class and for which you may require accommodations, then see a staff member in the Office of Disability Services (112 Johnston Hall) so that such accommodations can be considered. Students that receive accommodation letters and require additional time on exams must make arrangements with OSD and me at least THREE (3) days prior to any exam where accommodation is requested.

Class Contacts:

Members of your class are valuable resources for notes, assignments, announcements, etc. that are needed in the case that you are absent from class. Record the names, phone numbers and email addresses of 2-3 students that are willing to assist you if you are absent.

<table>
<thead>
<tr>
<th>Student Contact</th>
<th>Phone Number</th>
<th>E-Mail Address</th>
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<tbody>
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Faculty Senate Courses and Curricula Committee

January 23, 2013

From: Lawrence Rouse, Chair, Courses and Curricula Committee

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

**CONSTRUCTION MANAGEMENT CERTIFICATION**

- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “matters” and including course numbers and titles. The Committee also requested the editing of Part 4. Faculty for the inclusion of the asterisk in “Appointment”.

**CM 2101**

- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

**CM 3111**

- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

**CM 3401**

- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the *assignments* component of the grading criteria.

**CM 4111**

- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the *computer project* component of the grading criteria.

**CM 7030**

- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

**CM 7111**

- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150

- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211

- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220

- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite. and determining how the course project will be assigned.

CM 7230

- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250

- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastr1@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management
Engineering

College: ____________________________ Date: 12/5/12

PROPOSED COURSE
Rubric & No.: CM 3501
Title: Structural Principles & Practices

COURSE CREDIT
Graduate Credit: ___ YES ___ NO
Semester Hours of Credit: 3
(For combination course types only: ___ Lecture Hrs. ___ Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:
________________________________________________________
(Indicate rubrics and course numbers)

GRADING
Final Exam: ___ YES ___ NO
Grading System: ___ Letter Grade ___ Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
(Indicate hours in the appropriate course type)

/ LEC/REC / LEC/SEM / LEC / LAB / LEC/LAB / SEM / CLIN/PRACT / RESIND
Maximum enrollment per section: 40
(Use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)
3501 Structural Principles & Practices (3) Statics and strengths of materials; design of ordinary timber, steel, and reinforced concrete for construction applications.

BUDGET IMPACT
If this course is approved, will additional staff be needed? ___ YES ___ X ___ NO
Will additional space, equipment, special library materials or other major expense be involved? ___ YES ___ X ___ NO
(If answer to either question above is 'yes' attach explanation.) Academic Affairs Approval: __________

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses? No
SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval 12/14/12
Department Chair's Signature __________
College Faculty Approval 1/11/13
College Dean's Signature __________
Chair, FS C&C Committee __________
Graduate Dean's Signature (for 4000 level and above) __________
College Contact: Lisa Launey
(Please print name.)
College Contact E-mail: eglau@eng.lsu.edu

Academic Affairs Approval 2/1/13
(date)
CM 3501 Structural Principles & Practices

TERM:

CLASS TIME & LOCATION:

FACULTY: Kirby Hebert
112C Construction Management Building
225-578-5339
khebe31@lsu.edu

OFFICE HOURS:

WEBSITE: Moodle will be used for announcements, posting of solutions, etc. Students are responsible for all announcements made in class or distributed to the class through Moodle or e-mail. Course information, announcements and grades will also typically be posted on Moodle. Students should check these locations periodically for important updates and information you may have missed.


COURSE OBJECTIVES & OUTCOMES: This course is intended to serve as an introduction to the basic principles of statics and strengths of materials, and the application of these principles to the fundamentals of structural analysis and design. Following successful completion of this course, it is expected that students will be able to:

- calculate support reactions on a structure due to external loads.
- determine sectional properties of cross sections.
- determine forces in truss members.
- determine axial stress and strain due to mechanical and thermal loads.
- explain the elastic behavior of materials.
- determine loads, shear, bending moment in beams.
- determine bending stress, shear stress, and deflection in beams.
- determine the distribution of loads for floor framing systems.
- design a simple beam based on loading and selection criteria.
- summarize design concepts for steel, wood and reinforced concrete beams.
- determine the critical buckling loads and stresses on a column.

GRADE POLICY: Quizzes/Homework 25%
Exam #1 25%
Exam #2 25%
Final Exam 25%

GRADE SCALE:

A \geq 90
B \geq 80 \text{ and } < 90
C \geq 70 \text{ and } < 80
B \geq 60 \text{ and } < 70
F < 60
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Read Shaeffer</th>
<th>Read Quizzes</th>
<th>Homework Problems</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>by Sections</td>
<td>by Chapter</td>
<td>by 5th Edition problem numbers</td>
</tr>
<tr>
<td>1</td>
<td>Course Introduction, Forces and Vectors</td>
<td>1.1 - 2.4</td>
<td>Sh-1 Sa-1,2,3</td>
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<tr>
<td></td>
<td>Equilibrium of concurrent forces</td>
<td>2.5 - 2.7</td>
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<td>Ch2) 1, 2, 3, 4, 5, 6, 8</td>
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<td>2</td>
<td>Moments</td>
<td>2.8</td>
<td>Ch2) 11, 12, 13, 14, 17, 18</td>
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<tr>
<td></td>
<td>Cantilevers</td>
<td>2.9</td>
<td>Ch2) 20, 22, 23</td>
<td></td>
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<td></td>
<td>Reactions</td>
<td>Sh-5 Sa-4,5,6</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>2-Force Members</td>
<td>2.10</td>
<td>Ch2) 24, 25, 26, 27</td>
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<tr>
<td></td>
<td>Shed &amp; Gable Members / Stability / Determinacy</td>
<td>2.12 - 2.13</td>
<td>Ch2) 28, 29, 30M, 32, 33, 35</td>
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<td>4</td>
<td>Pinned Frames</td>
<td>2.14</td>
<td>Ch2) 36, 37M, 42</td>
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<td>Pinned Frames</td>
<td></td>
<td>Ch2) 44, 60</td>
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<td>Cables</td>
<td>2.15</td>
<td>Ch2) 55, 56, 57M</td>
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<td>5</td>
<td>Trusses</td>
<td>12.1 - 12.5</td>
<td>Sa-7,8,9,10</td>
<td>Ch12) 1, 1M, 7, 19, 20, 23</td>
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<tr>
<td></td>
<td><strong>Test 1</strong></td>
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<td>6</td>
<td>Centroid</td>
<td>3.1 - 3.2</td>
<td>Ch3) 1, 2, 4, 5, 6, 11, 13</td>
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<td>M of Inertia, Parallel axis</td>
<td>3.3 - 3.5</td>
<td>Ch3) 14, 15, 17, 22, 25, 32</td>
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<tr>
<td>7</td>
<td>Axial Stress - Strains / Materials</td>
<td>4.1 - 5.6</td>
<td>Sa-11,12,13,14</td>
<td>Ch4) 1-6, 9, 9M, 11, 13, 15, 17-23, 26</td>
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<td></td>
<td>Shear and Moment Diagrams</td>
<td>6.1 - 6.5</td>
<td>Ch6) 1-12, 14, 16, 26, 27</td>
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<td>8</td>
<td>Shear and Moment Diagrams</td>
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<td></td>
<td>Beam Formulas</td>
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<td>9</td>
<td>Bending Stress</td>
<td>7.1 - 7.5</td>
<td>Sa-15,16,17</td>
<td>Ch7) 1-4, 6, 7, 10, 12, 15-18, 21</td>
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<td></td>
<td>Shear Stress</td>
<td>8.1 - 8.5</td>
<td>Ch8) 1, 4, 5, 8, 10, 11, 12, 15</td>
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<td>10</td>
<td><strong>Test 2</strong></td>
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<td>Deflection</td>
<td>9.1, 9.3, 9.4, 9.5</td>
<td>Ch9) 10, 12, 14</td>
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<td>11</td>
<td>Framing</td>
<td>10.1-10.6</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Design Methodologies</td>
<td></td>
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<tr>
<td>12</td>
<td>Steel Beam Design</td>
<td>10.7-10.9</td>
<td></td>
<td>Ch10) 1, 2, 5, 6, 7</td>
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<tr>
<td></td>
<td>Wood Beam Design</td>
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<td>13</td>
<td>Reinforced Concrete Beam Design</td>
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<td></td>
<td>Ch11) 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 19, 20, 21, 22</td>
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<tr>
<td>14</td>
<td>Columns</td>
<td>11.1 - 11.7</td>
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</table>
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management Engineering

Date: 12/5/12

College: ____________________________

PROPOSED COURSE
Rubric & No.: CM 4111
Title: Construction Scheduling and Cost Control

Short Title: CONST SCHED CST CTL

COURSE CREDIT
Graduate Credit: YES NO

Semester Hours of Credit: 3

For combination course types only:
Lecture Hrs. ___ Lab/Sem/Rec Hrs. ___

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: YES NO Grading System: LETTER GRADE Pass/Fail

(Indicate rubrics and course numbers)

Course Type (Indicate hours in the appropriate course type)

/ LEC/REC / LEC/SEM / 3 LEC / LAB / LEC/LAB / SEM / CLIN/PRACT / RESIND

Maximum enrollment per section: 40
(use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

4111 Construction Scheduling and Cost Control (3) Fundamentals of planning and scheduling including network-based schedules, resource scheduling, probabilistic scheduling and computer applications. Project control emphasis on goals, flow of information, time and cost control, and change management.

BUDGET IMPACT
If this course is approved, will additional staff be needed? YES NO

Will additional space, equipment, special library materials or other major expense be involved? YES NO

[If answer to either question above is "yes", attach explanation.]

Academic Affairs Approval:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses? No

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria

(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students)

APPROVALS
Department Faculty Approval 12/14/12

(date) (date)

Department Chair’s Signature

College Dean’s Signature (for 4000 level and above) (date)

Lisa Launey

(please print name)

College Contact E-mail: eglaun@eng.lsu.edu

College Contact:

College Faculty Approval 11/5/13

(please print name)

Chair, F5 C&C Committee

Academic Affairs Approval 3/1/13
CM 4111 – Construction Scheduling and Cost Control

TERM : Fall 2013

CLASS TIME & LOCATION : T & Th Lecture: 9:00 – 10:30 Room 101 CM Bldg.

FACULTY : Dr. Emy Roider
Room 110 CM Building
croider@lsu.edu
225-578-0942

OFFICE HOURS : T Th 10:30 – 12:00
Wed: 9:00 – 11:00
By appointment

WEBSITE : Moodle will be utilized for this course.

CATALOG COURSE DESCRIPTION : Fundamentals of planning and scheduling including network-based schedules, resource scheduling, probabilistic scheduling and computer applications. Project control emphasis on goals, flow of information, time and cost control, and change management.

COURSE OBJECTIVE & OUTCOMES : This course is designed to provide the student with a working knowledge of planning, scheduling, and control and to acquire the skills needed to apply the critical path method, resource and cost management techniques, and other project management skills to real world projects.

Following successful completion of this course, it is expected that students will:
1. Develop a network model using both manual and computer methodologies.
2. Allocate resources to a project.
3. Prepare a cash flow diagram for a project.
4. Apply techniques for project monitoring and control.
5. Explain time and the impact of delays as it relates to contract provisions.
6. Create useful management reports with selected scheduling software.

GRADE POLICY : Exam #1 25%
Exam #2 25%
Final Exam #3 25%
Computer Project 10%
Quizzes / Assignments 15%

GRADE SCALE : A ≥ 90 Distinguished mastery of the course material
B 80 – 89.9999 Good mastery
C 70 – 79.9999 Acceptable mastery
D 60 – 69.9999 Minimally acceptable achievement for credit
F ≤ 59.9999 Failing

COMPUTER PROJECT: This course requires the completion of a computer project. The project will involve the scheduling of a construction project utilizing Primavera P6. Students will create the baseline schedule, resource and cost load the schedule, and conduct updates of the schedule based on information given in the project packet. Several problems requiring modification and analysis of the schedule will also be included.

CM 4111: Tentative Course Outline

<table>
<thead>
<tr>
<th>Week No.</th>
<th>Topic</th>
<th>Reading/Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction, Schedule Development Basics, Bar Charts</td>
<td>Ch 1, G Ch 1</td>
</tr>
<tr>
<td>2</td>
<td>Network Modeling Concepts: CPM and PERT</td>
<td>T Ch 2 &amp; 3, G Ch 2, Assign. 1</td>
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<td>3</td>
<td>Precedence Diagrams/Float Calculations</td>
<td>Assignment 2</td>
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<tr>
<td>4</td>
<td>Building a Schedule in Primavera P6, WBS, Project Calendar</td>
<td>G Ch 3, Assignment 3</td>
</tr>
<tr>
<td>5</td>
<td>Resource Management Introduction</td>
<td>T Ch. 6, Assignment 4</td>
</tr>
<tr>
<td>6</td>
<td>Resource Loading and Leveling</td>
<td>Assignment 5 and 6</td>
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<td>7</td>
<td>Cash Flow Analysis/Forecasting/Control</td>
<td>T Ch 6, Assignment 7</td>
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<td>8</td>
<td>Time/Cost Tradeoffs</td>
<td>T Ch 6, Assignment 8</td>
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<tr>
<td>9</td>
<td>Crashing the Project</td>
<td>Assignment 9</td>
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<td>10</td>
<td>Midterm Exam</td>
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<td>11</td>
<td>Project Monitoring &amp; Control</td>
<td>T Ch. 8, Assignment 10</td>
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<td>12</td>
<td>Updating/Earned Value/Delay Claims</td>
<td>T Ch 10, Assignment 11</td>
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<td>13</td>
<td>Contract Issues in Scheduling</td>
<td>T Ch 5, Assignment 12</td>
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<tr>
<td>14</td>
<td>Impact of Scheduling on Productivity</td>
<td>T Ch 11, Assignment 13</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

G = Training Guide  T = Text Book
Faculty Senate Courses and Curricula Committee

From: Lawrence Rouse, Chair, Courses and Curricula Committee

January 23, 2013

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION

- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “matters” and including course numbers and titles. The Committee also requested the editing of Part 4, Faculty for the inclusion of the asterisk in “Appointment”.

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CM 3111

- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401

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CM 4111

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CM 7111

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- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of "Graduate Standing" as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211
- The Committee conditionally approved the proposal to add CM 7211 pending the removal of "Graduate Standing" as the course prerequisite.

CM 7220
- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing "consent of instructor" as the prerequisite, and determining how the course project will be assigned.

CM 7230
- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250
- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastril@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at trouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management  Engineering

College: ________________________________ Date: 10/31/12

PROPOSED COURSE

Short Title: CONSTRUCTION CONTRACTING (5-19 characters)
Rubric & No.: CM 4211  Title: CONSTRUCTION CONTRACTING

COURSE CREDIT

Graduate Credit: X NO  
Semester Hours of Credit: 3  
(For combination course types only: Lecture Hrs.  Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING

Final Exam: X YES NO  Grading System: X Letter Grade Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE

(Indicate hours in the appropriate course type)

LEC/REC  LEC/SEM  3 LEC  ___ LAB  LEC/LAB  ___ SEM  ___ CUN/FRACT  ___ RES/IND

Maximum enrollment per section: 40  (use integer, e.g. 25 not 20-30)

CATALOG TEXT

(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

4211 Construction Contracting (3) Principles and theory of construction company ownership and organization, the estimate and bid process, construction contracts, bonds, and insurance, business methods and plans, management, and administration, labor law and relations, safety, and avoidance of claims.

If this course is approved, will additional staff be needed?  X YES NO

Will additional space, equipment, special library materials or other major expense be involved?  X YES NO

(If answer to either question above is "yes" attach explanation.)  Academic Affairs Approval:

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses? No

SYLLABUS: Including 14 week outline of the subject matter, titles of text, lab manual, and/or required readings; grading scale and criteria (For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS

Department Faculty Approval  12/14/12

Department Chair's Signature  2/1/2012

College Dean's Signature  (date)

Chair, FS C&C Committee  (date)

Graduate Dean's Signature (for 4000 level and above)  (date)

College Contact:

Lisa Launey  (Please print name)

College Contact E-mail: eglaueny@eng.lsu.edu

College Faculty Approval  1/22/13

Lisa Launey  11/15/13

College Dean's Signature  (date)

Chair, FS C&C Committee  (date)

Academic Affairs Approval  (date)

P. G. Launey  2/1/13
INSTRUCTOR: Don R. Schneider, 3128 Patrick F. Taylor Hall, E-MAIL-dschne22@lsu.edu
PH. 225.921.0909. Office hours by appointment. Available for online chat by appointment.

COURSE DESCRIPTION: 4211 Construction Contracting (3) Principles and theory of construction company
ownership and organization, the estimate and bid process, construction contracts, bonds, and
insurance, business methods and plans, management, and administration, labor law and relations,
safety, and avoidance of claims.

TEXT:
1. Construction Contracting, Richard H. Clough, Glenn A. Sears, S. Keoki Sears

REFERENCES:

COURSE PURPOSE: This course is designed to provide the student with a basic knowledge of the issues faced by a
construction company.

COURSE OUTCOMES: Following successful completion of this course, it is expected that students will:
1. Understand how to form and organize a construction company.
2. Understand the impact of construction contracts on the company and its projects.
3. Understand the uses of insurance and bonds for projects.
4. Understand business methods and business plans.
5. Understand labor issues and the roles and responsibilities of the persons administering the projects.

GRADING:
Your final grade in this course will be determined as follows:

Weekly Quizzes .............................................. 14 @ 10 pts. = 140 pts.
Mid-term Exam .................................................................... 100 pts.
Final Exam .............................................................................. 100 pts.
TOTAL .................................................................. = 340PTS.

The Grading Scale will be as follows:

90.0 – 100.00 A
80.0 – 89.999 B
70.0 – 79.999 C
60.0 – 69.999 D
59.999 E

Course Schedule

<table>
<thead>
<tr>
<th>Week No.</th>
<th>Topic</th>
<th>Textbook Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>The Construction Industry</td>
<td>1</td>
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<tr>
<td>2</td>
<td>Business Ownership</td>
<td>2</td>
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<tr>
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<td>Company Organization</td>
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3 Drawings and Specifications
   Cost Estimating and Bidding
4 Construction Contracts
5 Contract Surety Bonds
6 Construction Insurance
7 Business Methods
8 Project Management and Administration
9 Project Time Management
10 Project Cost Management
11 Labor Law
12 Labor Relations
13 Project Safety
14 Claims Avoidance

**The course schedule and procedures described above are subject to change in the event of extenuating circumstances.**

Other Statements are at:
REQUEST FOR ADDITION OF NEW COURSE

Date: 12/06/12

Department: Construction Management

College: Engineering

PROPOSED COURSE

Short Title: PROJECT DELIVERY

Rubric & No.: CM 7030

Title: Project Delivery

COURSE CREDIT

Graduate Credit: X YES _ NO

Semester Hours of Credit: 3

For "Lecture/Lab" type courses only: Lecture Hrs. Lab Hrs.

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of credit hours.

Credit will not be given for this course and:

Rubrics and course numbers

GRADING

Final Exam: X YES _ NO Grading System: X Letter Grade _ Pass/Fail

(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE

Check one type: X LEC _ LAB _ LEC/LAB _ SEM _ CLIN / PRACT _ RES / IND

Maximum enrollment per section: 20

(use integer, e.g. 25 not 20-30)

Total weekly contact hours: 3

(if lecture/lab, contact hours of. Lecture Lab)

CATALOG TEXT

(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

CM 7030 Project Delivery (3).

Advanced concepts of project delivery. Topics include project delivery systems, associated contractual methodologies, roles and responsibility of parties, feasibility analysis, project documentation, effective project execution, risk management, mitigation, and innovative construction practices.

BUDGET IMPACT

If this course is approved, will additional staff be needed? YES x NO

Will additional space, equipment, special library materials or other major expense be involved? YES x NO

(If answer to either question above is "yes" attach explanation.)

Academic Affairs Approval: Date:

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria.

(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students)

APPROVALS

Department Faculty Approval: 12/11/2012

College Faculty Approval: 1/11/13

Department Chair's Signature: 12/11/2012

College Dean's Signature: 1/11/13

Graduate Dean's Signature (for 4000 level and above): 1-21-13

Chair, FS C&C Committee: 1/8/13

Academic Affairs Approval: 2/1/13
CM 7030 – Project Delivery

TERM : Spring 2014

CLASS TIME & LOCATION : Tuesday
12:10-3:00
101 CM Building

FACULTY : Dr. Emr Roider
110 CM Building
eroider@lsu.edu
578-0942

OFFICE HOURS : 9:00-11:00 Wednesday
10:30-12:00 Thursday

WEBSITE : Moodle will be utilized for this course

CATALOG COURSE DESCRIPTION : CM 7030 Project Delivery (3) Advanced concepts of project delivery. Topics include project delivery systems, associated contractual methodologies, roles and responsibility of parties, feasibility analysis, project documentation, effective project execution, risk management and mitigation, and innovative construction practices.

COURSE OBJECTIVES & OUTCOMES : This course focuses on advanced concepts of project delivery, including conceptual planning, preconstruction, project execution, and project closeout. Course will include thorough coverage of the various project delivery systems, associated contractual methodologies, roles and responsibility of parties, feasibility analysis, project documentation, effective project execution, and risk management and mitigation. Innovative construction practices, such as advancements in sustainable construction, building information modeling, and integrated project delivery, will be included. The course objective is to provide students with a working knowledge of the advanced concepts of project delivery, including conceptual planning, preconstruction, project execution, and project closeout. The specific student outcome objectives are:

- To have an understanding of project delivery systems and associated contractual methodologies
- To be able to perform feasibility analysis
- To have an understanding of effective project documentation.
- To be able apply project management concepts for effective project execution

GRADE POLICY : Assignments 15%
Midterm 30%
Final Exam 30%
Final Paper 25%

GRADE SCALE : A ≥ 90
B 80 – 89.9999
C 70 – 79.9999
D 60 – 69.9999
F ≤ 59.9999
Final Paper

A literature review paper will be required for this class. Research topics related to innovative project delivery methods will be allowed. Topics must be selected by the student and approved by the instructor no later than midterm. Final paper should be 10-15 pages, typed, double-spaced, with 12 font. A final presentation of your paper will be required during the last week of the semester.

Department Policies:

1. Make-up quizzes are only allowed for excused absences as defined by university regulations. All excuses must be provided to the instructor within seven (7) days of the missed quiz.
2. Students are expected to attend all classes. If absence is necessary, Instructor is to be notified before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation and questions are encouraged. They may positively influence grading decisions in borderline cases.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student’s responsibility to understand these regulations.
5. No food or drinks are allowed in CM classrooms. Any materials brought into the classroom by a student must be removed by that student – this includes newspapers and any other materials. It is everyone’s responsibility to keep our classrooms clean.

Course Policies:

1. No late homework or make-up exams except with valid excuses as defined by the university regulations in PS 22. It is up to the instructor to decide if an excuse meets the requirements as defined in the regulations. The student must notify the instructor in advance if a student feels that he or she has a valid reason for missing an exam. If the student cannot speak to the instructor in person, the student must leave a phone message or email to document that the student did make the attempt. However, the student must realize that a make-up exam will only be given for extreme circumstances. In the case of an emergency when it is impossible to notify the instructor in advance of the absence, the student must notify the instructor within 24 hours of the missed exam. Again, remember that only in extreme circumstances will a make-up exam be given. Documentation will be required for all excuses, including a death in the immediate family or illness. A note from the student health center does not qualify as a valid excuse. If a student misses an exam, and the instructor does not consider the excuse a valid reason for missing the exam, the student will be assigned a grade of zero for that exam.

Classroom Civility

Students are expected to assist in maintaining a classroom environment that is conducive to learning. To create an environment in which learning is the primary objective, students are asked to refrain from disruptive behaviors, including the use of cell phones or beepers (please turn them off or on silent before class begins or let me know at the beginning of class if you may have an emergency), excessive tardiness, leaving early, reading newspapers during class (or working Sudoku or crossword puzzles), sleeping, prolonged visiting with other students and making inappropriate or offensive remarks. This is not a comprehensive list – please treat the instructor and other class members with respect.
CM 7030 Tentative Course Outline & Assignment Sheet

(This Schedule is subject to change with notification by instructor)

<table>
<thead>
<tr>
<th>No</th>
<th>Topic</th>
<th>Reading*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction, The Project Delivery System; Responsibility and Authority</td>
<td>Chapters 1 &amp; 2</td>
</tr>
<tr>
<td>2</td>
<td>Engineering Economic Analysis, Project Screening and Selection,</td>
<td>Instructor Resources</td>
</tr>
<tr>
<td>3</td>
<td>Scope and Organizational Structure of a Project</td>
<td>Instructor Resources</td>
</tr>
<tr>
<td>4</td>
<td>Project Representative Office Responsibilities, Documentation: Records and Reports;</td>
<td>Chapters 3,4</td>
</tr>
<tr>
<td>5</td>
<td>Electronic Project Administration, Specifications and Drawings. Using the Specifications in Contract Administration.</td>
<td>Chapters 5, 6, 7</td>
</tr>
<tr>
<td>6</td>
<td>Construction Laws and Labor Relations, Meeting and Negotiations, Risk Allocation and Liability Sharing</td>
<td>Chapters 8, 10, 11</td>
</tr>
<tr>
<td>7</td>
<td>Midterm Exam</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Preconstruction Operations</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>9</td>
<td>Construction Planning and Scheduling</td>
<td>Chapters 13 and 14</td>
</tr>
<tr>
<td>10</td>
<td>Construction Safety, Construction Operations</td>
<td>Chapters 9 and 15</td>
</tr>
<tr>
<td>11</td>
<td>Value Engineering, Measurement and Payment</td>
<td>Chapters 16 and 17</td>
</tr>
<tr>
<td>12</td>
<td>Construction Materials and Workmanship, Changes and Extra Work, Claims and Disputes</td>
<td>Chapters 18, 19, 20</td>
</tr>
<tr>
<td>13</td>
<td>Project Closeout</td>
<td>Chapter 21</td>
</tr>
<tr>
<td>14</td>
<td>Innovations in Project Delivery</td>
<td>Instructor Resources</td>
</tr>
<tr>
<td>15</td>
<td>Final Paper Presentation</td>
<td></td>
</tr>
</tbody>
</table>
CM 7030 – Project Delivery

Justification for Course

This course will be offered as a core CM course for the new CM MS degree. The concepts and applications covered in this course represent core fundamentals in the construction management field. This course has previously been offered once as a special topics course (Fall 2011 (enrollment 18)), but the department does not currently have an approved course with this title and/or covering these topics.
Faculty Senate Courses and Curricula Committee

From: Lawrence Rouse, Chair, Courses and Curricula Committee

January 23, 2013

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION

- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “mater’s” and including course numbers and titles. The Committee also requested the editing of Part 4. Faculty for the inclusion of the asterisk in “Appointment”.

CM 2101

- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

CM 3111

- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401

- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the assignments component of the grading criteria.

CM 4111

- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the computer project component of the grading criteria.

CM 7030

- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

CM 7111

- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150

- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211

- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220

- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite, and determining how the course project will be assigned.

CM 7230

- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250

- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastrl@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at mrowse@lsu.edu.
REQUEST FOR ADDITION of NEW COURSE

Please submit 17 copies of each request.

Department: Construction Management  Date: 12/06/12

College: Engineering

PROPOSED COURSE

Short Title: ADV CONST SCHEDULING  (≤ 20 characters)

Rubric & No.: CM 7111  Title: Advanced Construction Scheduling

COURSE CREDIT

Graduate Credit: X YES  NO  (complete for 4000 level courses only)

Semester Hours of Credit: 3  (For "Lecture/Lab" type courses only: Lecture Hrs.  Lab Hrs.)

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of  credit hours.

Credit will not be given for this course and:

(Indicate rubrics and course numbers)

GRADING

Final Exam: X YES  NO  Grading System: X Letter Grade  Pass/Fail

(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE

Check one type: X LEC  LAB  LEC/LAB  SEM  CLIN/PRACT  RES/IND

Maximum enrollment per section: 20  (Use integer, e.g. 25 not 20-30)

Total weekly contact hours: 3  (If lecture/lab, contact hours of: Lecture  Lab)

CATALOG TEXT  (Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

CM 7111 Advanced Construction Scheduling (3)  Advanced techniques in schedule development and implementation for effective project management during the planning and construction phases of a project, including monitoring, updating, and controlling the project schedule and computer software applications.

BUDGET IMPACT

If this course is approved, will additional staff be needed? X YES  NO

Will additional space, equipment, special library materials or other major expense be involved? X YES  NO

(IF ANSWER TO EITHER QUESTION ABOVE IS "YES" ATTACH EXPLANATION.)  Academic Affairs Approval: Date:

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria.

(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students)

APPROVALS

Department Faculty Approval  12/10/12  College Faculty Approval  1/11/13

Department Chair’s Signature  12/11/12  College Dean’s Signature  1/15/13

Graduate Dean’s Signature (for 4000 level and above)  1/21/13  Chair, FS C&C Committee  1/28/13

 Academic Affairs Approval  3/1/13
CM 7111 – Construction Scheduling and Diagnostics

TERM : Fall 2014

CLASS TIME & LOCATION
FACULTY : TBA
Dr. Eny Roider
110 CM Building
eroider@lsu.edu
578-0942

OFFICE HOURS : 10:30-12:00 TTH
9:00 – 11:00 Wed.

WEBSITE : Moodle will be utilized for this course

CATALOG COURSE DESCRIPTION : Advanced Construction Scheduling
Advanced Construction Scheduling (3) Advanced techniques in schedule development and implementation for effective project management during the planning and construction phases of a project. Examines the monitoring, updating, and controlling of the project schedule using computer software applications. Time related change orders and delays are analyzed along with network models, resource leveling algorithms, and project diagnostics.

COURSE OBJECTIVES & OUTCOMES : The course objective is to provide students with a working knowledge of advanced techniques in schedule development and implementation for effective project management during the planning and construction phases of a project. It examines monitoring, updating, and controlling the project schedule; construction project scheduling using computer software applications; analyzing time-related change orders and delays; claims control; network and non-network models; resource leveling and algorithms, and project diagnostics. The specific student outcome objectives are:
• To have an understanding of the importance and role of construction scheduling as it pertains to effective project management
• To be able to create a construction schedule using network modeling techniques and scheduling software applications.
• To be able to apply resource and cost management concepts to improve project performance.
• To be able to update the construction schedule, analyze time-related impacts to the construction schedule, and develop project reports for effective monitoring and control of construction projects

GRADE POLICY : Assignments 20%  
Midterm 30%
Final Exam 30%
Project/Paper 20%

GRADE SCALE : 
A ≥ 90
B 80 – 89.9999
C 70 – 79.9999
D 60 – 69.9999
F ≤ 59.9999
Final Paper

A literature review paper will be required for this class. Research topics related to construction scheduling and diagnostics are allowed. Topics must be selected by the student and approved by the instructor no later than midterm. Final paper should be 10 pages, typed, double-spaced, with 12 font. A final presentation of your paper will be required during the last week of the semester.

Department Policies:

1. Make-up quizzes are only allowed for excused absences as defined by university regulations. All excuses must be provided to the instructor within seven (7) days of the missed quiz.
2. Students are expected to attend all classes. If absence is necessary, Instructor is to be notified before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
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Course Policies:

1. No late homework or make-up exams except with valid excuses as defined by the university regulations in PS 22. It is up to the instructor to decide if an excuse meets the requirements as defined in the regulations. The student must notify the instructor in advance if a student feels that he or she has a valid reason for missing an exam. If the student cannot speak to the instructor in person, the student must leave a phone message or email to document that the student did make the attempt. However, the student must realize that a make-up exam will only be given for extreme circumstances. In the case of an emergency when it is impossible to notify the instructor in advance of the absence, the student must notify the instructor within 24 hours of the missed exam. Again, remember that only in extreme circumstances will a make-up exam be given. Documentation will be required for all excuses, including a death in the immediate family or illness. A note from the student health center does not qualify as a valid excuse. If a student misses an exam, and the instructor does not consider the excuse a valid reason for missing the exam, the student will be assigned a grade of zero for that exam.

Classroom Civility

Students are expected to assist in maintaining a classroom environment that is conducive to learning. To create an environment in which learning is the primary objective, students are asked to refrain from disruptive behaviors, including the use of cell phones or beepers (please turn them off or on silent before class begins or let me know at the beginning of class if you may have an emergency), excessive tardiness, leaving early, reading newspapers during class (or working Sudoku or crossword puzzles), sleeping, prolonged visiting with other students and making inappropriate or offensive remarks. This is not a comprehensive list – please treat the instructor and other class members with respect.
<table>
<thead>
<tr>
<th>Class No.</th>
<th>Topic</th>
<th>Reading/Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction, Schedule Development Basics</td>
<td>&quot;Project Scheduling and Monitoring: Current Research Status&quot; Abuya and Thiruvengadam</td>
</tr>
<tr>
<td>2</td>
<td>Network Modeling</td>
<td>Instructor Resources</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to P6</td>
<td>Chapters 1-5, 7 Computer Assignment #1</td>
</tr>
<tr>
<td>4</td>
<td>Resource Loading/Leveling</td>
<td>Chapter 6, Student Presentations Computer Assignment #2</td>
</tr>
<tr>
<td>5</td>
<td>Resource Loading/Leveling</td>
<td>Chapter 6, Student Presentations Computer Assignment #3 Paper Abstract Due</td>
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<tr>
<td>12</td>
<td>Paper Conference</td>
<td>Draft Paper Due</td>
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<tr>
<td>13</td>
<td>Paper Presentations</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Final Exam</td>
<td></td>
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</tbody>
</table>
CM 7111 – Construction Scheduling and Diagnostics

Justification for Course

This course will be offered as a CM elective course for the new MSCM degree. The concepts covered in this proposed course represent core construction management knowledge. This course has previously been offered once as a special topics course in the fall of 2009 (enrollment = 23), but the department does not currently have an approved course with this title and/or covering these topics.
Family Senate Courses and Curricula Committee

From: Lawrence Runes, Chair, Courses and Curricula Committee

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION
- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “maters” and including course numbers and titles. The Committee also requested the editing of Part 4, Faculty for the inclusion of the asterisk in “Appointment”.

CM 2101
- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

CM 3111
- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401
- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the assignments component of the grading criteria.

CM 4111
- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the computer project component of the grading criteria.

CM 7030
- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

CM 7111
- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150
- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211
- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220
- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite, and determining how the course project will be assigned.

CM 7230
- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250
- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastril@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE
PLEASE SUBMIT 17 COPIES OF EACH REQUEST

Department: Construction Management Date: 09/12/11
College: Engineering

PROPOSED COURSE
Short Title: CONSTRUCTION DISPUTE RESOLUTION

Rubric & No.: cm 7211 Title: CONSTRUCTION DISPUTE RESOLUTION

COURSE CREDIT
Graduate Credit: X YES NO (complete for 4000 level courses only)
Semester Hours of Credit: 3 (For “Lecture/Lab” type courses only: Lecture Hrs. Lab Hrs).
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: X YES NO Grading System: X Letter Grade Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
Check one type: X LEC LAB LEC/LAB SEM CLIN/PRACT RES/IND
Maximum enrollment per section: 20 (use integer, e.g. 25 not 20-30)
Total weekly contact hours: 3 (If lecture/lab, contact hours of: Lecture Lab)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)
CM 7211 CONSTRUCTION DISPUTE RESOLUTION (3)
Recognizing the origins of construction disputes, ways to avoid disputes through quality control, communications, and negotiation, and the alternate dispute resolution methods available.

BUDGET IMPACT
If this course is approved, will additional staff be needed? X YES NO
Will additional space, equipment, special library materials or other major expense be involved? X YES NO
(If answer to either question above is “yes,” attach explanation.) Academic Affairs Approval:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.
JUSTIFICATION: Justification must explain why this course is needed. Will the course duplicate other courses?
SYLLABUS: Including 14 week outline of the subject matter, titles of text, lab manual, and/or required readings; grading scale and criteria.
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval College Faculty Approval
(date) (date)
Department Chair’s Signature College Dean’s Signature
(date) (date)
Graduate Dean’s Signature (for 4000 level and above) Chair, FS C&C Committee
(date) (date)

INSTRUCTIONS for FORM A
LOUISIANA STATE UNIVERSITY

CM 7211: CONSTRUCTION DISPUTE RESOLUTION

INSTRUCTOR: Don R. Schneider, 3128 Patrick F. Taylor Hall, E-MAIL-dschne22@lsu.edu
PH. 225.921.0909, Office hours by appointment.

COURSE DESCRIPTION: This course explores the origins of construction disputes, ways to avoid disputes through quality control, communications, and negotiation, and the alternate dispute resolution methods available.


REFERENCES:

COURSE PURPOSE: This course is designed to provide the student with a basic knowledge of construction disputes, what creates them, how to avoid them, and how to resolve them.

COURSE OUTCOMES: Following successful completion of this course, it is expected that students will:
1. Understand what causes construction disputes.
2. Understand how to avoid disputes by use of quality control methods, communications, and negotiations.
3. Understand the alternate dispute resolution methods and how to prepare for them.

GRADING:

Your final grade in this course will be determined as follows:

Weekly Quizzes ......................................................12 @ 20 pts. = 240 pts.
Two tests (each 200 pts.)..............................................= 400 pts.
Final Exam.....................................................................= 360 pts.
TOTAL ...........................................................................= 1,000 PTS.

The Grading Scale will be as follows:

<table>
<thead>
<tr>
<th>Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90.0 - 100.00</td>
<td>A</td>
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<tr>
<td>80.0 - 89.999</td>
<td>B</td>
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<tr>
<td>70.0 - 79.999</td>
<td>C</td>
</tr>
<tr>
<td>60.0 - 69.999</td>
<td>D</td>
</tr>
<tr>
<td>0 - 59.999</td>
<td>F</td>
</tr>
</tbody>
</table>

The course schedule and procedures described above are subject to change in the event of extenuating circumstances.
# Course Schedule

<table>
<thead>
<tr>
<th>Week No.</th>
<th>Topic</th>
<th>Textbook Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction to Construction Dispute</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>2</td>
<td>Outline of the American Legal System</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>3</td>
<td>Alternatives to Traditional Litigation</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>4</td>
<td>The Construction Process</td>
<td>Chapter 4</td>
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<tr>
<td>5</td>
<td>Contract as a Means of Regulating Duties and Behaviors</td>
<td>Chapter 5</td>
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<tr>
<td>6</td>
<td>Subcontracting</td>
<td>Chapter 6</td>
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<tr>
<td>7</td>
<td>Case Study</td>
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</tr>
<tr>
<td>8</td>
<td>Tort Claims</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>9</td>
<td>Insurance</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>10</td>
<td>Bonds in Construction</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>11</td>
<td>Government Entities and Construction Projects</td>
<td>Chapter 10</td>
</tr>
<tr>
<td>12</td>
<td>Avoiding or Terminating Construction Litigation</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>13</td>
<td>Effective Construction Dispute Resolution: A Summary</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>14</td>
<td>Case Study</td>
<td></td>
</tr>
</tbody>
</table>

## Department Policies

1. No make-up exams (excuses for such are defined by the university regulations).
2. Students are expected to attend all classes. If absence is necessary, instructor is to be notified before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation and questions are encouraged. They may positively influence grading decisions in borderline cases.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student's responsibility to understand these regulations.
5. No food or drinks are allowed in CM classrooms. Any materials brought into the classroom by a student must be removed by that student – this includes newspapers and any other materials. It is everyone's responsibility to keep our classrooms clean.

## University Policies and Services:

### Office of Disability Services

If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please see a staff member in the Office of Disability Services (112 Johnston Hall) so that such accommodations can be considered. Students that receive
accommodation letters, please meet with me to discuss the provisions of those accommodations as soon as possible.

Other Statements are at:
CM 7211-01 – Construction Dispute Resolution

Justification
This course will be offered as part of the Construction Management (CM) elective courses for the Masters of Science in CM program (MSCM). The faculty expects that this course will attract students from a construction management background, as well as from civil engineering and architecture backgrounds.

The CM Department at LSU needs to provide its students with a graduate course to teach future industry professionals how to recognize potential construction dispute problems, how to avoid such disputes when possible through quality control, communication, and negotiation, and for problems that cannot be avoided how to resolve the disputes through alternative dispute resolution methods. It will also give the faculty an opportunity to select graduate students interested in working in the area of quality control.

Currently there are no courses offered on this subject in the CM Department, nor the College of Engineering, and therefore the faculty feels that it would be beneficial to the students to offer course work in this area.
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management
College: Engineering

PROPOSED COURSE
Short Title: BIM FOR CONSTRUCTION
Rubric & No.: CM 7220
Title: Building Information Modeling for Construction Management

COURSE CREDIT
Graduate Credit: X YES _ NO (complete for 4000 level courses only)
Semester Hours of Credit: 3
(For "Lecture/Lab" type courses only: Lecture Hrs. ___ Lab Hrs. ___)
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: x YES _ NO Grading System: x Letter Grade _ Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
Check one type: X LEC _ LAB _ LEC/LAB _ SEM _ CLIN/PRACT _ RES/IND
Maximum enrollment per section: 20 (use integer, e.g. 25 not 20-30)
Total weekly contact hours: 3 (If lecture/lab, contact hours of: Lecture ___ Lab ___)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)
CM 7220 Building Information Modeling for Construction Management (3) Concepts related to the implementation of BIM in construction projects from the perspective of the general contractor. Topics include applications of BIM for visualization, marketing, quantity take-off, scheduling, coordination, and facilities management.

BUDGET IMPACT
If this course is approved, will additional staff be needed? ___ YES x NO
Will additional space, equipment, special library materials or other major expense be involved? ___ YES x NO
(If answer to either question above is "yes" attach explanation.)
Academic Affairs Approval: Date:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL
JUSTIFICATION: Justification must explain why this course is needed. Will the course duplicate other courses?
SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria.
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students)

APPROVALS
Department Faculty Approval: 12/10/2012
( date)
Department Chair's Signature: 12/11/2012
(date)
Graduate Dean's Signature (for 4000 level and above): 1-21-13
(date)

College Faculty Approval: 1/11/13
(date)
College Dean's Signature: 1/15/13
(date)
Chair, FS C&C Committee: 1/28/13
(date)
Academic Affairs Approval: 2/6/13
(date)
CM 7220 – Building Information Modeling for Construction Management

TERM: Fall 2013

CLASS TIME & LOCATION:
Wednesday
4:30-7:30 p.m.
CM 110

FACULTY:
Emy Roider, PhD
CM 110
groider@lsu.edu
225-578-0942 (office)
225-937-9783 (cell)

OFFICE HOURS:
Tuesday 9:00 a.m. – 11:00 a.m. and Wednesday 10:30 - 11:30 or by appointment

WEBSITE:
Moodle will be utilized for this course

CATALOG COURSE DESCRIPTION:
CM 7220 Building Information Modeling for Construction Management (3)
Concepts related to the implementation of BIM in construction projects from the perspective of the general contractor. Topics include applications of BIM for visualization, marketing, quantity take-off, scheduling, coordination, and facilities management.

COURSE OBJECTIVES & OUTCOMES:
This course provides an introduction to the concepts and terminology related to implementing building information modeling in construction projects from the perspective of the general contractor. Topics will include alternative project delivery methods and innovative construction practices facilitated through the implementation of BIM and the applications of BIM for visualization, marketing, quantity take-off, cost estimating, scheduling, coordination, and facility management. The course objective is to provide students with a working knowledge of the application of building information modeling in the construction industry. The specific student outcome objectives are:

- To have a basic understanding of the concepts of building information modeling
- To have a basic understanding of alternative project delivery methods and how building information modeling can facilitate the application of such methods
- To have an understanding of the legal issues in the implementation of building information modeling in a construction project
- To be able to apply building information modeling tools in construction applications, including quantity take-off, 4D scheduling, and clash detection.
### Course Materials and Resources

- Revit Architecture 2012 Essentials
- BIM and Construction Management: Proven Tools, Methods, and Workflows by Brad Hardin. 2009

### Final Project

The final project will be assigned by the instructor and is required for this course. There will be four main components of the project: a completed REVIT model of your construction project, marketing renderings of your project, conceptual cost estimate of your project, and a linked 4D construction schedule simulation. A final presentation of your project will also be required at the end of the semester.

### Department Policies:

1. Make-up quizzes are only allowed for excused absences as defined by university regulations. All excuses must be provided to the instructor within seven (7) days of the missed quiz.
2. Students are expected to attend all classes. If absence is necessary, Instructor is to be notified before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation and questions are encouraged. They may positively influence grading decisions in borderline cases.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student’s responsibility to understand these regulations.
5. No food or drinks are allowed in CM classrooms. Any materials brought into the classroom by a student must be removed by that student – this includes newspapers and any other materials. It is everyone’s responsibility to keep our classrooms clean.

### University Policies and Services:

Office of Disability Services (Recommended to be included by ODS. Other statements are at [http://appl003.lsu.edu/slas/ods.nsf/$Content/Sample+Syllabus+Statements?OpenDocument](http://appl003.lsu.edu/slas/ods.nsf/$Content/Sample+Syllabus+Statements?OpenDocument))

If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please see a staff member in the Office of Disability Services (112 Johnston Hall) so that such accommodations can be considered. Students that receive accommodation letters, please meet with me to discuss the provisions of those accommodations as soon as possible.
# CM 7220 Tentative Course Outline & Assignment Sheet

(This Schedule is subject to change with notification by instructor)

<table>
<thead>
<tr>
<th>No</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignments*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>BIM overview/definitions/current AEC models. the difference between CAD and BIM, successful implementation of BIM</td>
<td>Chap. 1&amp;2 BIM Handbook</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Introduction to BIM Applications: REVIT, NavisWorks, Quantity Take-Off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The Current AEC Business Model/BIM Tools and Parametric Modeling</td>
<td>Chap. 3&amp;4 BIM Handbook</td>
<td>Fishing Cabin</td>
</tr>
<tr>
<td>5</td>
<td>Interoperability/BIM for Owners and Facility Managers</td>
<td>Chap. 5 BIM Handbook</td>
<td>Fishing Cabin</td>
</tr>
<tr>
<td>6</td>
<td>BIM for Architects and Engineers</td>
<td>Chap. 6 BIM Handbook</td>
<td>Chapter 1&amp;2 Revit book</td>
</tr>
<tr>
<td>7</td>
<td>BIM for the Construction Industry</td>
<td>Chap. 7 BIM Handbook</td>
<td>Chapter 3 Revit Book</td>
</tr>
<tr>
<td>8</td>
<td>Midterm Exam</td>
<td>Chap. 7 BIM Handbook</td>
<td>Chapter 4 &amp; 5 Revit Book</td>
</tr>
<tr>
<td>9</td>
<td>BIM for Subcontractors and Fabricators/BIM for Preconstruction</td>
<td>Hardin</td>
<td>Chapter 6 &amp; 7 Revit book</td>
</tr>
<tr>
<td>10</td>
<td>BIM and Construction: Quantity Take-Off, 4D scheduling, Clash Detection</td>
<td>Hardin</td>
<td>Chapter 8 &amp; 9</td>
</tr>
<tr>
<td>11</td>
<td>BIM and Updates</td>
<td>Hardin</td>
<td>Chapter 10 &amp; 11</td>
</tr>
<tr>
<td>12</td>
<td>BIM and Construction Administration</td>
<td>Hardin</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>13</td>
<td>BIM and Sustainability</td>
<td>Hardin</td>
<td>Chapter 13 &amp; 14</td>
</tr>
<tr>
<td>14</td>
<td>Final Project Presentations</td>
<td></td>
<td>Project</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam</td>
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</tbody>
</table>

* Readings and assignments are due during the class period indicated
CM 7220 – BIM for Construction Management

Justification for Course

This course will be offered as a CM elective course for the new MSCM degree. The concepts and applications of building information modeling are relevant and timely topics for construction management, and this area represents a research specialization for one of the CM faculty members. This course has previously been offered twice (Spring 2012 (enrollment = 10) and Fall 2012 (enrollment = 15)) as a special topics course, but the department does not currently have an approved course with this title and/or covering these topics.
Facility Senate Courses and Curricula Committee

From: Lawrence Rouse, Chair, Courses and Curricula Committee

January 23, 2013

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION
- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “matters” and including course numbers and titles. The Committee also requested the editing of Part 4, Faculty for the inclusion of the asterisk in “Appointment”.

CM 2101
- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

CM 3111
- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401
- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the assignments component of the grading criteria.

CM 4111
- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the computer project component of the grading criteria.

CM 7030
- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

CM 7111
- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150
- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211
- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220
- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite, and determining how the course project will be assigned.

CM 7230
- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250
- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastr11@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at hrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management Date: 10/1/2012

College: Engineering

PROPOSED COURSE

Rubric & No.: CM 7230 Title: Lean Construction

COURSE CREDIT

Graduate Credit: X YES NO (complete for 4000 level courses only)

Semester Hours of Credit: 3 (For "Lecture/Lab" type courses only: Lecture Hrs. Lab Hrs).

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of _____ credit hours.

Credit will not be given for this course and:

(Indicate rubrics and course numbers)

GRADING

Final Exam: X YES NO Grading System: X Letter Grade Pass/Fail

(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE

Check one type: X LEC LAB LEC/LAB SEM CLIN/PRACT RES/IND

Maximum enrollment per section: 25 (use integer, e.g. 25 not 20-30)

Total weekly contact hours: 3 (if lecture/lab, contact hours of: Lecture Lab)

CATALOG TEXT

(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

CM 7230 Lean Construction (3).

Lean construction is presented as a production management-based approach to improve the Architecture/Engineering/Construction (AEC) process as well as product, including: foundations of lean construction, lean process management, lean process measurement and tools/techniques, lean construction practices.

BUDGET IMPACT

If this course is approved, will additional staff be needed? YES X NO

Will additional space, equipment, special library materials or other major expense be involved? YES X NO

(If answer to either question above is "yes" attach explanation.)

Academic Affairs Approval:

Date:

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria

(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS

Department Faculty Approval 12/10/2012 (date)

Department Chair's Signature 12/11/2012 (date)

College Faculty Approval 11/13/2013 (date)

College Dean's Signature 11/13/2013 (date)

Graduate Dean's Signature (for 4000 level and above) (date)

Chair, FS C&C Committee 1/24/13 (date)

Academic Affairs Approval 2/15/13 (date)
JUSTIFICATION

This graduate course will be offered as part of the CM elective courses for the new CM Master's program and focuses on an important current research area in Construction Management, and is a research specialization for one of our faculty members. The department does not currently have a course covering these concepts. This course will allow the graduate faculty to enhance their areas of expertise. It will also give the faculty an opportunity to select graduate students interested in working in the area of construction productivity.
CM 7230 – Lean Construction

TERM: 20XX
CLASS TIME & LOCATION: TBA

FACULTY: Dr. Isabelina Nahmens
Assistant Professor
Dept. of Construction Management
Office: PTH 3134B
Email: nahmens@lsu.edu
Phone: (225) 578-0943

OFFICE HOURS: TBA

WEBSITE: Moodle will be utilized for this course.

COURSE DESCRIPTION: Lean construction is presented as a production management-based approach to improve the Architecture/Engineering/Construction (AEC) process as well as product, including: foundations of lean construction, lean process management, lean process measurement and tools/techniques, lean construction practices.

COURSE OBJECTIVES & OUTCOMES: Following successful completion of this course, it is expected that students will be able to:

1. Define lean construction and its application to improve the AEC process.
2. Understand the foundation of lean construction.
4. Apply lean construction tools and techniques.
5. Evaluate and synthesize published scholarly articles on lean construction research.

GRADE POLICY:
- Research paper- final 40%
- Research paper- draft 5%
- Research paper- presentation 20%
- Written reflections (5) 15%
- Discussion leadership 10%
- In-class quizzes/activities 10%

GRADE SCALE:
- A ≥ 90 Distinguished mastery of the course material
- B 80 – 89.9999 Good mastery
- C 70 – 79.9999 Acceptable mastery
- D 60 – 69.9999 Minimally acceptable achievement for credit
- F ≤ 59.9999 Failing

(Grade Descriptions from 2008-2009 LSU General Catalog, p. 73)
COURSE MATERIALS AND RESOURCES: There is no required textbook for this course, but we will use various excerpts and journal papers as assigned in class. Some helpful resources are listed below.


Department Policies:

1. No make-up exams (excuses for such are defined by the university regulations).
2. Students are expected to attend all classes. If absence is necessary, Instructor is to be notified before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation and questions are encouraged. They may positively influence grading decisions in borderline cases.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student's responsibility to understand these regulations.
5. No eating, drinking, tobacco products, gum, magazines, or newspapers are allowed in CM classrooms.
6. Turn cell phones off, or place on the silent mode.
7. Campus-based and/or web-based library usage is required.
Course Components

1. Research paper: The purposes of this assignment are to allow students to more fully explore a topic of interest related to Lean Construction research and to provide practice in developing a literature review and research plan.

The major due dates are listed: all assignments should be uploaded to Moodle by 11:59pm on the date listed. I will provide feedback within one week.

Topic selection and outline: Monday, [date]
First draft and reference list: Friday, [date]
Final proposal: Friday, [date]

A literature review critically reviews, integrates, and synthesizes empirical research and interpretations of research. Each student will choose a topic related to lean construction and prepare a literature review with the following sections: a) background and specific aims of the literature review, b) integration and synthesis of previous research, c) summary of strengths and gaps in the research and research conclusions, d) recommendations for future research and practice, and e) references. The student should perform the literature search of at least ten peer-reviewed journal manuscripts (e.g., Journal of Construction Engineering and Management, Lean Construction Journal, etc.). The culmination of the literature review should be one specific research question/objective that you will address in the research plan.

The research plan is the methods that would be used to test your research objective. The major sections of the research plan include those typically found in a peer-reviewed journal manuscript. For this class, the research design section and analysis section are required. Depending on the research objective/question and the research design, other sections may include participants, equipment/survey instruments, procedures, etc.

a. Topic selection and outline: Provide a one-page summary of your topic including a rationale for your selection and general methods required to execute the research. Also provide an outline (major and minor sections) you will follow to organize your paper. If your topic/outline needs revisions, you must resubmit them within 3 days.

b. First draft and reference list: The first draft should be at least 50% of the final paper and have started all of the sections found in the outline. Any incomplete sections should include a short note of what will be done to complete the section. The reference list should include all sources you plan to use, regardless of whether the sources have been read at that point.

c. Final proposal: While there are no specific page requirements, the final paper should be 15-20 pages. Papers significantly shorter or longer should be revised. Papers must be double-spaced, 1” margins on all sides, 10-12 point serif font (e.g., times new roman). Citations and references must use APA format (5th or 6th editions are acceptable).

Further information on developing the topic, obtaining a reference list, using APA style, proper use of references, and writing style will be addressed in class throughout the semester. I am available to meet with students to discuss specific topics and writing issues.

2. Discussion Leadership: There are several goals of class discussions: 1) to extend the background knowledge of each topic to related current research, 2) to provide a forum to
develop research evaluation skills, and 3) to increase communications skills and scholarly debates. One student will lead the discussion weekly.

I will provide one relevant journal article or other reading materials for each topic covered in the class. The discussion leader will chose one additional article, preferably related to that person’s research proposal. This article must be provided one week prior to the discussion so that the reference can be posted on Moodle.

The discussion leader will be expected to present a summary of the papers and lead a discussion of the strengths, weaknesses, future directions, and relationships to other research for each paper. Discussion leaders will be evaluated on knowledge of the papers, depth of discussion ideas presented, and presentation/leadership skills.

Class participants are expected to contribute through questions and comments. All students are expected to obtain the readings from the library (most are available as an eJournal). Material from discussions may be used on weekly quizzes.

3. **Written reflections:** The purpose of this assignment is to develop skills in formulating research ideas and critiquing research. You will complete five (5) written reflections on five of the journal papers or reading materials covered in class of your choice (instructor or discussion leader readings). For each reflection, provide
   a. a short summary of one paper you read or the topic as a whole
   b. one strength of the paper/topic
   c. one weakness of the paper/topic
   d. a research question related to this topic and propose an experiment or study that could be used to test that question. Note: You may use the proposed experiment “expand the study population” only once this semester.
   e. full reference for the paper discussed and any additional sources used (APA 5th or 6th formatting)

Each reflection should be at least one page (12 pt font single spaced, 1-inch margins) but no more than two pages. Any references cited do not count toward the page limit. Reflections will be graded on content and clarity of writing (including grammar). Reflections should be uploaded to Moodle in the assignments section by the due date indicated. No late assignments will be accepted; you may turn in reflections at any time before then.

4. **Quizzes and in-class activities:** Quizzes are intended to help you assess your learning as you progress through the course. Quizzes and activities will be given once a week on Mondays unless otherwise announced in class. To complete each quiz, you are expected to have read all reading and lecture materials pertaining to the subject. Quizzes will consist of 10 short-answer questions in 10 minutes.
# Tentative Course Outline

<table>
<thead>
<tr>
<th></th>
<th>Topics</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to Lean Construction</td>
<td>Defining lean construction, traditional vs. lean construction methods, overview of lean construction principles, and transitioning from productivity measurement to lean construction.</td>
</tr>
<tr>
<td>2</td>
<td>Foundation of Lean Construction</td>
<td>Lean theory, lean manufacturing- Toyota's production system (TPS), and origins of lean construction.</td>
</tr>
<tr>
<td>3</td>
<td>Foundation of Lean Construction</td>
<td>Lean Construction barriers, systems perspective of lean and lean construction principles.</td>
</tr>
<tr>
<td>5</td>
<td>Lean Process Measurements</td>
<td>Time studies, work sampling and lean performance measures.</td>
</tr>
<tr>
<td>7</td>
<td>Lean Tools/Techniques</td>
<td>Kanban, Takt time, work balancing, work flow and just in time processing (JIT).</td>
</tr>
<tr>
<td>8</td>
<td>Lean Process Management</td>
<td>Lean project delivery system, and lean design management.</td>
</tr>
<tr>
<td>9</td>
<td>Lean Process Management</td>
<td>Last Planner ® system.</td>
</tr>
<tr>
<td>10</td>
<td>Lean Construction and Supply Chain Management</td>
<td>Defining supply chain and supply chain management (SCM), SCM in lean project delivery.</td>
</tr>
<tr>
<td>11</td>
<td>Lean Construction and Supply Chain Management</td>
<td>Project supply chains, selected lean production system design concepts and principles and lean supply.</td>
</tr>
<tr>
<td>12</td>
<td>Lean Culture for the Construction Industry</td>
<td>Lean team, ethics, commitment, accountability, influencing vs. motivating, internal and external factors.</td>
</tr>
<tr>
<td>13</td>
<td>Lean Construction Applications</td>
<td>Organizing and adopting lean construction, training needs, responsibilities and roles.</td>
</tr>
<tr>
<td>14</td>
<td>Lean Construction Applications</td>
<td>Review case studies on lean construction application including lean construction applications form the perspective of a subcontractor.</td>
</tr>
</tbody>
</table>
Faculty Senate Courses and Curricula Committee

From: Lawrence Rouse, Chair, Courses and Curricula Committee

January 23, 2013

At their January 22, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following action regarding the CM proposals:

CONSTRUCTION MANAGEMENT CERTIFICATION

- The Committee conditionally approved the proposal to add the online undergraduate certification pending a revision of the introduction and justification page for the CM Online Leveling and Certificate Courses. The Committee requested a more detailed justification statement editing the word “matters” and including course numbers and titles. The Committee also requested the editing of Part 4. Faculty for the inclusion of the asterisk in “Appointment”.

CM 2101

- The Committee conditionally approved the proposal to add CM 2101 pending the revision of the course syllabus, editing Policy #1 as well as determining whether or not the course project is instructor assigned or instructor approved.

CM 3111

- The Committee conditionally approved the proposal to add CM 3111 pending the revision of the course syllabus, determining whether or not the course project is instructor assigned or instructor approved.

CM 3401

- The Committee conditionally approved the proposal to add CM 3401 pending the revision of the course syllabus, editing Policy #1 as well as revising the assignments component of the grading criteria.

CM 4111

- The Committee conditionally approved the proposal to add CM 4111 pending the revision of the course syllabus, describing in detail the computer project component of the grading criteria.

CM 7030

- The Committee conditionally approved the proposal to add CM 7030 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.

CM 7111

- The Committee conditionally approved the proposal to add CM 7111 pending the revision of the course syllabus, editing Policy #1 as well as removing “Graduate Standing” as the course prerequisite.
CM 7150
- The Committee conditionally approved the proposal to add CM 7150 pending the revision of the course syllabus title as it differs from the course proposal form as well as the removal of “Graduate Standing” as the course prerequisite. The Committee also requested letters of support from the Mathematics and Experimental Statistics departments to show that there is no course overlap between the departments.

CM 7211
- The Committee conditionally approved the proposal to add CM 7211 pending the removal of “Graduate Standing” as the course prerequisite.

CM 7220
- The Committee conditionally approved the proposal to add CM 7220 pending the course title change. The course title should be spelled out in full. The Committee also requested editing Policy #1, removing “consent of instructor” as the prerequisite, and determining how the course project will be assigned.

CM 7230
- The Committee conditionally approved the proposal to add CM 7230 pending the submission of the course justification as well as a revised course syllabus describing in full the discussion leadership and research paper components of the grading criteria.

CM 7250
- The Committee conditionally approved the proposal to add CM 7250 pending the removal of the prerequisites as well as the submission of a revised syllabus editing Policy #1 and the Student Petition sections.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acstril@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.