

Submit original with signatures + 1 copy + electronic copy to UAF Governance.

See <http://www.uaf.edu/uafgov/faculty/cd> for a complete description of the rules governing curriculum & course changes.

TRIAL COURSE OR NEW COURSE PROPOSAL

SUBMITTED BY:

| | | | |
|---------------|------------------------------|-----------------|----------------|
| Department | Civil and Environmental Eng. | College/School | CEM |
| Prepared by | Robert Perkins | Phone | 474 7694 |
| Email Contact | raperkins@alaska.edu | Faculty Contact | Robert Perkins |

| | | | | |
|-----------------------------------|--------------|--|------------|---|
| 1. ACTION DESIRED (CHECK ONE): | Trial Course | | New Course | X |
|-----------------------------------|--------------|--|------------|---|

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|---------------------------|------|----|----------|-------|----------------|---|
| 2. COURSE IDENTIFICATION: | Dept | CE | Course # | F655A | No. of Credits | 1 |
|---------------------------|------|----|----------|-------|----------------|---|

Justify upper/lower division status & number of credits:

Course is intended for professional students who are college graduates. Credits are based on contact minutes and content. They are roughly one-third of a regular three-credit graduate course.

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| 3. PROPOSED COURSE TITLE: | Managing Project Risk |
|---------------------------|-----------------------|

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| 4. To be CROSS LISTED? YES/NO | No | If yes, Dept: | | Course # | |
| (Requires approval of both departments and deans involved. Add lines at end of form for such signatures.) | | | | | |

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| 5. To be STACKED? YES/NO | No | If yes, Dept. | | Course # | |
|-----------------------------|----|---------------|--|----------|--|

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| 6. FREQUENCY OF OFFERING: | As demand warrants |
| | Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) – or As Demand Warrants |

| | |
|--|--------------------|
| 7. SEMESTER & YEAR OF FIRST OFFERING (if approved) | As demand warrants |
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8. COURSE FORMAT:

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

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|---|--|----------------------------|---------------------------------------|----------------------------|----------------------------|---|
| COURSE FORMAT: (check all that apply) | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input checked="" type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 weeks to full semester |
| OTHER FORMAT (specify) | Two 2 hour and 15 minute lectures per week for three weeks delivered face-to-face or via video conferencing. | | | | | |
| Mode of delivery (specify lecture, field trips, labs, etc) | Lectures | | | | | |

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|----------------------------|-----|---------------------|--|-----------------|--|-----------------------|
| 9. CONTACT HOURS PER WEEK: | 4.5 | LECTURE hours/weeks | | LAB hours /week | | PRACTICUM hours /week |
|----------------------------|-----|---------------------|--|-----------------|--|-----------------------|

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See <http://www.uaf.edu/uafgov/faculty/cd/credits.html> for more information on number of credits.

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| OTHER HOURS (specify type) | N/A |
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10. **COMPLETE CATALOG DESCRIPTION** including dept., number, title and credits (50 words or less, if possible):

CE F655A, Managing Project Risk, 1 credit

Students will develop a basic understanding of risk in project management practice with applications to construction management. They will be able to write a project risk management plan and apply some risk principles to estimates using Excel and Crystal Ball.

11. **COURSE CLASSIFICATIONS:** (undergraduate courses only. Use approved criteria found on Page 10 & 17 of the manual. If justification is needed, attach on separate sheet.)

H = Humanities

S = Social Sciences

Will this course be used to fulfill a requirement for the baccalaureate core?

YES

NO

IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive,
Format 6

W = Writing Intensive,
Format 7

Natural Science,
Format 8

12. **COURSE REPEATABILITY:**

Is this course repeatable for credit?

YES

NO

No

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).

How many times may the course be repeated for credit?

TIMES

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?

CREDITS

13. **GRADING SYSTEM:** Specify only one.

LETTER:

X

PASS/FAIL:

RESTRICTIONS ON ENROLLMENT (if any)

14. **PREREQUISITES**

None

These will be required before the student is allowed to enroll in the course.

RECOMMENDED

Admission to the Graduate Certificate in Construction Management program

Classes, etc. that student is strongly encouraged to complete prior to this course.

15. **SPECIAL RESTRICTIONS, CONDITIONS**

16. **PROPOSED COURSE FEES**

\$

Has a memo been submitted through your dean to the Provost & VCAS for fee approval?

Yes/No

17. **PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously?

Yes/No

Yes

If yes, give semester, year, course #, etc.:

January 2009, CE 693

18. **ESTIMATED IMPACT**

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

These courses were approved by the Board of Regents for special tuition and are expected to be self-supporting

19. **LIBRARY COLLECTIONS**

Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No

x

Yes

No library involvement

20. IMPACTS ON PROGRAMS/DEPTS

What programs/departments will be affected by this proposed action?

Include information on the Programs/Departments contacted (e.g., email, memo)

The Graduate Certificate in Construction Management and its courses was approved by the CEE faculty and the CEM dean.

21. POSITIVE AND NEGATIVE IMPACTS

Please specify **positive and negative** impacts on other courses, programs and departments resulting from the proposed action.

This course follows the New Degree Program Request which examined the growth in the CEE department. No additional positive or negative impacts from this course are likely.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

This course is part of a UAF CEE outreach to package our graduate classes in a way that is convenient to students and their employers. This outreach was formalized in a New Degree Program Request for a Graduate Certificate in Construction Management which was approved by the UA Board of Regents in September 2009. The courses in this program grew out of a needs assessment by UAF CEE of Alaska engineering employers, including governments, consultants, and contractors, that indicated that courses of about one credit's intensity were best. The classes are being taught by UAF faculty, emeritus faculty, or appropriate adjuncts approved by the CEE faculty and Chair. All classes feature an assessment process: tests, reports, presentations, and/or graded homework.

APPROVALS:

| | | | |
|---|--|------|--|
| | | Date | |
| Signature, Chair, Program/Department of: | | | |
| | | Date | |
| Signature, Chair, College/School Curriculum Council for: | | | |
| | | Date | |
| Signature, Dean, College/School of: | | | |
| | | Date | |
| Signature of Provost (if applicable) | | | |

Offerings above the level of approved programs must be approved in advance by the Provost.

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

| | | |
|--|------|--|
| | Date | |
| Signature, Chair, UAF Faculty Senate Curriculum Review Committee | | |

ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)

| | | |
|---|------|--|
| | Date | |
| Signature, Chair, Program/Department of: | | |

| | | |
|--|------|--|
| | Date | |
| Signature, Chair, College/School Curriculum Council for: | | |

| | | |
|-------------------------------------|------|--|
| | Date | |
| Signature, Dean, College/School of: | | |

Syllabus

Prerequisites: None. Recommended: College degree in engineering or science or any college degree with construction experience

Meets Monday and Wednesday in the UAF Center for Distance Education conference room, corner of University and Davis Rd., and a remote location, 3PM to 5:15 PM, January 21 to February 9.

Instructor: Dr. Robert Perkins, PE, 253 Duckering, 474 7694, ffrap@uaf.edu, Office Hours 9:30 to 12, Tues and Thurs or by appointment.

Course material is available on:

<http://www.faculty.uaf.edu/ffrap/CM%20Course%20Info/CM%20Index.html>

There is no required textbook. Two documents from the web should be downloaded to your computer and/or printed:

Goals, Description, and Schedule

Goal: Students will develop a basic understanding of risk in project management practice with applications to construction management. They will be able to write a project risk management plan and apply some risk principles to estimates using Excel and Crystal Ball.

Course outline

Classes 1, Wednesday, January 21, 2009

Introduction

Decisions, Certainty, Uncertainty, and Risk.

Risk and Projects

Qualitative Risk Analysis

Class 2, Monday, January 26

Construction

Construction and Risks

Estimating and Risks

Work Breakdown Structure

Class 3, Wednesday, January 28

Quantitative Risk Analysis

Probability Basics

Excel

Simulation with Crystal Ball

Class 4, Monday, February 2

Guest lecture, Bonding and Insurance

Risk Assessment

Planning, Identification and Assessment

FHWA, CalTrans, NCHRP, PMBOK

Class 5, Wednesday, February 4

Risk Management

Monitoring and Response

Public
Applications to Projects - Changes
Contractors Risks
Bid
Changes
Owners Risks

Class 6, Wednesday, February 9
Presentations

Project

Develop a risk management plan for a (hypothetical) small project from the owners and the contractor's perspective. Develop cost and schedule estimates with statements of probability. Note other risks.

Cast an estimate in terms of risk and defend the final result.

Instructional methods: Lecture in class or by video conferencing.

References. These are also on the class web site

1. Guide to Risk Assessment and Allocation for Highway Construction Management, US DOT, FHWA, October 2006, available on-line from:

<http://international.fhwa.dot.gov/riskassess/pl06032.pdf>

Note this is a 10 meg file and takes a while to download. Also, it reads better if you can print it out on color printer.

2. Caltrans risk management handbook and three related documents, available on-line from

http://www.dot.ca.gov/hq/projmgmt/guidance_prmhb.htm

(The Excel sheets have some macros and you may need to downgrade your security settings to open them.)

A third document, NCHRP is about cost estimating, but since so many risks relate to costs, much of it is quite relevant.

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_574.pdf

This is a two meg file.

Students will be required to download a computer program, Crystal Ball, from the web.

<http://www.oracle.com/crystalball/index.html> However, do not do that until you are told. (The trial version is limited and cannot be reactivated without purchasing.)

Evaluation: Grades will be awarded based on the instructor subject evaluation of the student's attainment of the course goals. Input to that evaluation will include: Class attendance and participation, 10%, quiz, 30%, project 60%.

[The following is required by UAF standard policies]

Course policies:

Attendance: Attendance at all classes is recommended. Timely submission of assignments is encouraged; late work may be accepted, if prior arrangements are made.

Changes: Changes to this Syllabus and the above outline may be made by the instructor with reasonable notice.

| | |
|------------|--|
| Cheating | Accepting or giving unauthorized help on graded work is cheating. A student caught cheating will be given an “F” in the course. Discussing with other students “how to do” homework and project assignments is authorized. Copying or plagiarizing other students’ homework or assignments is not authorized |
| Plagiarism | Plagiarism is stealing from the original author. Copying assignments and exams is stealing from fellow students, as well as misrepresenting (lying) to the instructor. |

Support Services: The instructor is available after class for consultations and by email at any time.

Disabilities Services: The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. State that you will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities.”