

**Curriculum Change Form**  
**(Present only one proposed curriculum change per form)**  
**(Complete only the section(s) applicable.)**

**Part I**

|  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> (Check one)<br>New Course (Parts II, IV)  | Department Name   | Applied Engineering & Technology   |  |
| <input checked="" type="checkbox"/> Course Revision (Parts II, IV) | College   | Business & Technology  |  |
| <input type="checkbox"/> Hybrid Course ("S," "W")                  | *Course Prefix & Number                                 | CON 499  |  |
| <input type="checkbox"/> New Minor (Part III)                      | *Course Title (30 character limit)                      | Construction Management Capstone   |  |
| <input type="checkbox"/> Program Suspension (Part III)             | *Program Title  |  |  |
| <input type="checkbox"/> Program Revision (Part III)               | *Provide only the information relevant to the proposal. | If Certificate, indicate Long-Term (University) or Short-Term (Departmental) |  |

  

|   | <u>Date</u> |                             | <u>Date</u> |
|---|-------------|-----------------------------|-------------|
| Proposal Approved by:<br>Departmental Committee | Nov 8, 2013 | Council on Academic Affairs | 2/20/2014   |
| College Curriculum Committee                    | 1/17/2014   | Faculty Senate**            | NA          |
| General Education Committee*                    | NA          | Board of Regents**          | NA          |
| Teacher Education Committee*                    | NA          | EFFECTIVE ACADEMIC TERM***  | Fall 2014   |
| Graduate Council*                               | NA          |                             |             |

\*If Applicable (Type NA if not applicable.)  
\*\*Approval needed for program revisions or suspensions.  
\*\*\*To be added by the Registrar's Office after all approval is received.

**Completion of A, B, and C is required: (Please be specific, but concise.)**

**A. 1. Specific action requested:** (Example: Increase the number of credit hours for ABC 100 from 1 to 2.)  
Increase credit hours from 3 to 4 in order to allow for additional instruction on Safety.

**A. 2. Proposed Effective Academic Term:** (Example: Fall 2012)  
Fall 2014

**A. 3. Effective date of suspended programs for currently enrolled students:** (if applicable)  
NA

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**B. The justification for this action:**

Increasing the credit hours from 3 to 4 will allow for the CM program to meet the needs of the construction industry by providing safety compliance education to students. In conjunction with this change, OSH379 will be dropped from the CM program and replaced with approved OSHA 30-hour online training in this course. This not only ensures the CM Program continues to meet ACCE requirements, but also provides CM students with another certification that will enhance their employability upon graduation, thereby helping the program meet its strategic goal to place 90% of students within 9 months of graduation.

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**C. The projected cost (or savings) of this proposal is as follows:**

**Personnel Impact:**  
None

**Operating Expenses Impact:**  
None

**Equipment/Physical Facility Needs:**  
None

**Library Resources:**  
None

**Part II. Recording Data for New, Revised, or Dropped Course**

(For a **new required course**, complete a separate request for the appropriate program revisions.)

1. For a new course, provide the catalog text.
2. For a revised course, provide the current catalog text with the proposed text using ~~striethrough~~ for deletions and underlines for additions.
3. For a dropped course, provide the current catalog text.

New or Revised\* Catalog Text

(\*Use ~~striethrough~~ for deletions and underlines for additions. Also include Crs. Prefix, No., and description, limited to 35 words.)

**CON 499 Construction Mgt. Capstone. (34) II.** Corequisites and/or prerequisites: CON 425, CON 426. A project-based capstone course ~~in construction management~~ for senior-level ~~majors~~ construction management students under the direction of the construction management faculty. This course ~~will emphasize the integration of~~ integrates applied components of knowledge and skills acquired in previous undergraduate construction courses and incorporates online environmental and safety certifications. 23 Lec/2 Lab.

**Part IV. Recording Data for New or Revised Course** (Record only **new** or **changed** course information.)

|   |  |   |   |                    |
|---|--|---|---|--------------------|
| Course prefix<br>(3 letters)            | Course Number<br>(3 Digits)                      | Effective Academic Term<br>(Example: Fall 2012)   | College/Division:   | Dept. (4 letters)* |
| CON                                     | 499  | Fall 2014   | AS _____ HS _____<br>BT <u>XX</u> JS _____<br>ED _____ UP _____ | AETM               |
| Credit Hrs.                             | Weekly Contact Hrs.                              |   | Repeatable Maximum No. of Hrs. _____                            |                    |
| 4                                       | Lecture <u>3</u> Laboratory <u>2</u> Other _____ |   | Cip Code (first two digits only) 52                             |                    |
| Schedule Type*<br>(List all applicable) | Work Load<br>(for each schedule type)            | Grading Mode*   | Class Restriction, if any: (undergraduate only)                 |                    |
|   | 4  |   | FR _____ JR _____<br>SO _____ SR _____                          |                    |
|   |  | Grading Information: Course is eligible for IP (in-progress grading) for: <u>Check all applicable</u> |   |                    |
|   |  | Thesis _____  |   |                    |
|   |  | Internship _____  |   |                    |
|   |  | Independent Study _____   |   |                    |
|   |  | Practicum _____   |   |                    |

**CoRequisites and Prerequisites** **\*\*See definitions on following page\*\***

**Co-Requisite(s):** (List only co-requisites. See below for prerequisites and combinations.)

|                       |  |
|-----------------------|--|
| Course Prefix and No. |  |
| Course Prefix and No. |  |

**Prerequisite(s):** (List prerequisites only. List combinations below. Use “and” and “or” literally.) (Specific minimum grade requirements should be placed in ( ) following courses. Default grade is D-.)

|  |  |
|--|--|
| Course Prefix and No.  |  |
| Course Prefix and No.  |  |
| Test Scores  |  |
| Minimum GPA (when a course grouping or student cumulative GPA is required) |  |

**Co-requisite(s) and/or Prerequisite(s) Combination** (Use “and” and “or” literally.) (Specific minimum grade requirements should be placed in ( ) following courses. Default grade is D-.)

|  |  |
|--|--|
| Course Prefix and No.  |  |
| Test Scores  |  |
| Minimum GPA (when a course grouping or student cumulative GPA is required) |  |

**Equivalent Course(s):** (credit will not be awarded for both...; or formerly...)

|                       |  |
|-----------------------|--|
| Course Prefix and No. |  |
| Course Prefix and No. |  |
| Course Prefix and No. |  |

Proposed General Education Element: Please mark (X) in the appropriate Element or Elements

| Element 1 (9) | Element 2 (3) | Element 3 (6)                | Element 4 (6) | Element 5 (6) | Element 6 (6) | Wellness |
|---------------|---------------|------------------------------|---------------|---------------|---------------|----------|
| 1A (3)        | 2 (3)         | 3A (3)                       | 4(6)          | 5A (3)        | 6 (6)         |          |
| 1B (3)        |               | 3B (3)                       |               | 5B (3)        |               |          |
| 1C (3)        |               | or 3A/B<br>Integrated A&H(6) |               |               |               |          |

Eastern Kentucky University  
Department of Applied Engineering & Technology  
CON 499, Construction Management Capstone, CRN ????  
4 semester hours

Scott A. Arias, PMP  
Whalin 323, hours as posted or by appointment  
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**Catalog Course Description:**

A project-based capstone course for senior-level construction management students under the direction of the construction management faculty. This course integrates applied components of undergraduate construction courses and incorporates online environmental and safety certifications.

Pre-requisites and/or Co-requisites: CON 425 Project Organization and Supervision  
CON 426 Scheduling

**Textbook:**

Book: To be locally created.

Software: Lab 340 Provided: Microsoft Project (MP), Primavera (P6), ConsensusDOCS, Sage Project Management Module and On-Center Software.

**Materials:**

You are required to have your textbook and an electronic storage device available during scheduled class periods.

**Student Learning Outcomes:**

To create a learning environment whereby a student becomes able to:

- A. Manage the business development operations of a construction entity using a sample case study.
- B. Manage the project bidding phase of construction using an end-of-course project.
- C. Manage the design phase of a design-build project using a sample case study.
- D. Orchestrate the preconstruction activities involved in an end-of-course project.
- E. Develop the structural design for a temporary structure using a case study project.
- F. Develop, plan and monitor the sequence of construction using an end-of-course project.
- G. Develop and review prime and subcontracts using an end-of-course case study.
- H. Develop creative value engineering/constructability options for an end-of-course project.
- I. Survey a site and record the project data using an end of course project.
- J. Use clear and quantifiable project control metrics to manage a case study project.
- K. Prepare and review monthly progress payment estimates for billing on a course project.
- L. Determine the Mechanical, Electrical, and Plumbing design for a projected design change during construction using a case study.
- M. Analyze, identify, and correct both safety and quality control discrepancies using a case study.
- N. Conduct an ethics and safety audit of an end-of-course case study.

**Evaluation Methods:** (approximate weight)

|                       |            |               |
|-----------------------|------------|---------------|
|                       |            | 90 to 100 = A |
|                       |            | 80 to 89 = B  |
| Assignments/Labs..... | 40%        | 70 to 79 = C  |
| Exams.....            | <u>60%</u> | 60 to 69 = D  |
|                       | 100%       | Below 60 = F  |

**Student Progress:**

Students will be informed if they are failing to make sufficient progress (A, B, or C) prior to mid-term submission date posted in Colonel’s Compass. (No make ups without a written excuse)

**Attendance Policy:**

Students are expected to attend all class sessions in order to derive full benefit from instruction. Students who elect to absent themselves from a class session warrant a failing grade for performance opportunities missed during that session. They also forfeit any claims on making up laboratory work, discussions, or lectures, for the class sessions they failed to attend. Students anticipating an absence should confer in advance with the instructor concerning the consequences of the absence. Absences will be considered unexcused unless student informs instructor of the reason for absence. Illness, death in the family, approved University activities, or other unavoidable incidents are examples of excused absence. ***Attendance will be taken every class period as the first item of business. After two University unexcused absences, the student’s final grade will be dropped one letter grade for each additional two absences after that. (i.e. 4 Absences = Drop in grade from an A to a B).***

**Last Date to Drop the Course:**

TBD

**Disability Statement:**

*A student with a “disability” may be an individual with a physical or mental impairment that substantially limits one or more major life activities such as learning, seeing or hearing. Additionally, pregnancy or a related medical condition that causes a similar substantial limitation may also be considered a disability under the ADA.*

If you are registered with the Office of Services for Individuals with Disabilities, please obtain your accommodation letters from the OSID and present them to the course instructor to discuss any academic accommodations you need. If you believe you need accommodation and are not registered with the OSID, please contact the office in the Whitlock Building Room 361 by email at [disserv@eku.edu](mailto:disserv@eku.edu) or by telephone at (859) 622-2933. Upon individual request, this syllabus can be made available in an alternative format.

**Academic Integrity Statement:**

Students are advised that EKU's Academic Integrity Policy will be strictly enforced in this course. The Academic Integrity policy is available at [www.academicintegrity.eku.edu](http://www.academicintegrity.eku.edu). Questions regarding the policy may be directed to the Office of Academic Integrity.

**Official E-mail:**

An official EKU e-mail is established for each registered student, each faculty member, and each staff member. All university communications sent via e-mail will be sent to this EKU e-mail address. Students are required to check their email daily.

## **Course Requirements:**

Occasionally, in-class assignments will be given and credit for said assignments can only be acquired by being present. Homework will be assigned on a regular basis. Maximum credit for late work is 50% within 1 week of assignment due date, after which no credit is authorized for any assignment. Working together on homework is permissible; copying is not. The first exam will be practical in nature. The second exam will be the American Institute of Constructor's (AIC) Construction Fundamentals Exam, Level 1. It is mandatory for satisfactory course completion and graduation. Students must pay 50% of AIC exam enrollment fee. The Final Project will consist of all the project submittals that correspond to the Final Project Presentation (Assignment #6). The Final Project Presentation is mandatory for satisfactory course completion. A personal computer will be used for project scheduling and each student must have a USB drive for saving computerized schedules. Environmental Compliance Assessment, Training, and Tracking System (ECATTS) and OSHA 30 hour certification is mandatory for satisfactory course completion and the training will be completed by the student online.

## **Class Hours:**

M-W 1:25-4:15 pm

## **Inclement Weather:**

In the case of inclement weather, the University could possibly be closed or delayed. In anticipation of this event, this class has an inclement weather policy. During inclement weather each student is required to check Blackboard and review the lecture presentation for that class, along with completing any assignments that may be assigned. It is the responsibility of the student to email any assignment that is due on the inclement weather day to [scott.arias@eku.edu](mailto:scott.arias@eku.edu). Inclement weather will not be an excuse for not completing coursework or reviewing the class coursework online. All require coursework and materials will be available on blackboard and each student is responsible for review of this information for testable purposes.

## **Cell Phones:**

Cell phones are to remain OFF during class. Failure to comply will result in dismissal from class and an unexcused absence given for the class period.

| <b>CON 499 - Capstone</b> |     |   |           |                     |            |
|---------------------------|-----|---|-----------|---------------------|------------|
| Date                      | #   | Lecture Topic   | Professor | Assignment          | Points     |
|                           | 1.  | Introduction & Course Admin                             | Arias     | -                   | -          |
|                           | 2.  | Bidding – The Design-Build/Design-Bid-Build Process     | Arias     | <b>Assignment 1</b> | <b>50</b>  |
|                           | 3.  | Business Development – Project Identification/Strategy  | Arias     |                     |            |
|                           | 4.  | Bidding – Design Process (Design/Build)                 | Dyer      |                     |            |
|                           | 5.  | Bidding – Site Logistics (Layout & Design)              | Dyer      |                     |            |
|                           | 6.  | Bidding – Submittal (Env. Plans/SWPPP)                  | Arias     | <b>Assignment 2</b> | <b>50</b>  |
|                           | 7.  | Bidding – Solicitation / Scope Review /Bid Reconcile    | Arias     |                     |            |
|                           | 8.  | Bidding – Bid Submission, Award & Expectations          | Lamanna   |                     |            |
|                           | 9.  | <b>Exam 1 - Midterm</b>                                 | Arias     |                     | <b>200</b> |
|                           | 10. | Design – The Process (Post-Award: Design/Build)         | Dyer      |                     |            |
|                           | 11. | Design – Architectural Design ITR (Bldg Codes)          | Lamanna   |                     |            |
|                           | 12. | Design – Electrical Design ITR (Bldg Codes)             | Lamanna   |                     |            |
|                           | 13. | Design – Mechanical & Plumbing Design ITR               | Dyer      | <b>Assignment 3</b> | <b>50</b>  |
|                           | 14. | Design – Structural Design ITR Part I (Bldg Codes)      | Lamanna   |                     |            |
|                           | 15. | Design – Value Engineering / Constructability           | Reynolds  |                     |            |
|                           | 16. | Pre-Construction –The Process - Submittal (Contracts)   | Arias     |                     |            |
|                           | 17. | Pre-Construction – Submittal (Materials)                | Reynolds  |                     |            |
|                           | 18. | Pre-Construction – Submittal (Safety Plans)             | Arias     | <b>Assignment 4</b> | <b>50</b>  |
|                           | 19. | Pre-Construction – Submittal (Quality Control Plans)    | Lamanna   |                     |            |
|                           | 20. | Pre-Construction – Submittal (Schedule)                 | Arias     |                     |            |
|                           | 21. | Pre-Construction – Submittal (Schedule)                 | Arias     |                     |            |
|                           | 22. | Construction – The Process – Mobilization & Charter     | Arias     |                     |            |
|                           | 23. | Construction – Survey, Alignment Control & Organization | Dyer      |                     |            |
|                           | 24. | <b>Exam 2 – AIC Exam</b>                                | Arias     |                     | <b>200</b> |
|                           | 25. | Construction – Project Monitoring & Reporting           | Arias     | <b>Assignment 5</b> | <b>100</b> |
|                           | 26. | Construction – Amendment & Change Order Process         | Reynolds  |                     |            |
|                           | 27. | Construction – Pay Applications / Forecasts (ETC)       | Arias     |                     |            |
|                           | 28. | Construction – Constructability Analysis                | Dyer      |                     |            |
|                           | 29. | Construction – Start-up, PVT & Commissioning            | Arias     | <b>Assignment 6</b> | <b>100</b> |
|                           | 30. | Construction – Punch List / Close-out / Turnover        | Arias     |                     |            |
|                           | 31. | <b>Final Project</b>                                    | Arias     |                     | <b>200</b> |

**\*All Assignments are due by 6:00 am the date indicated on course outline.**