

**UCC/UGC/ECCC**

Proposal for Plan Change or Plan Deletion

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| **[ ]  FAST TRACK (Select if this will be a fast track item**. Refer to  [***Fast Track Policy***](http://www4.nau.edu/avpaa/UCCPolicy/Agenda_FastTrack_Consent.docx) for eligibility) |

***If this proposal represents changes to the intent of the plan or its integral components, review by the college dean, graduate dean (for graduate items) and/or the provost may be required prior to college curricular submission.***

***All Plans with NCATE designation, or plans seeking NCATE designation, must include an NCATE Accreditation Memo of Approval from the NAU NCATE administrator prior to college curricular submission.***

***UCC proposals must include an updated 8-term plan.***

***UGC proposals must include an updated program of study.***

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| 1. College: | **CEFNS** | 2. Academic Unit: | **CECMEE**  |
|  |  |  |  |
| 3. Academic      Plan Name: | **Civil Engineering; B.S.E (CIEGRBSEX)** | 4. Emphasis: |  |

|  |  |  |
| --- | --- | --- |
| 5. Plan proposal: | [x]  Plan Change | **[ ]** Plan Deletion |
|  | **[ ]** New      Emphasis | **[ ]** Emphasis       Change | **[ ]** Emphasis             Deletion |

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| 6. Current student learning outcomes of the plan. If structured as plan/emphasis, include for **both c**ore and emphasis. Our specific learning goals are stated as our Student Learning Outcomes; upon graduation, students will have developed the following:* An ability to apply knowledge of mathematics, science, and engineering;
* An ability to design and conduct experiments, as well as to analyze and interpret data;
* An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
* An ability to function on multidisciplinary teams;
* An ability to identify, formulate, and solve engineering problems;
* An understanding of professional and ethical responsibility;
* An ability to communicate effectively;
* The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and society context;
* A recognition of the need for, and an ability to engage in life-long learning;
* A knowledge of contemporary issues;
* An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
 | Show the proposed changes in this column (if applicable). **Bold** the changes, to differentiate from what is not changing, and change font to **~~Bold Red with strikethrough~~**for what is being deleted. *(*[*Resources, Examples & Tools for Developing Effective Program Student Learning Outcomes*](http://www4.nau.edu/avpaa/Assessment/ProgramLearningOutcomesPDF_090712.pdf)*).***UNCHANGED** |

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| 7. Current catalog plan overview and requirements in this column. Cut and paste the *Overview* and *Details* tabs, in their entirety, from the current on-line academic catalog: (<http://catalog.nau.edu/Catalog/>)***Civil Engineering; B.S.E.*** In addition to University Requirements:* At least 57 units of preprofessional requirements
* At least 53 units of major courses
* Be aware that you may not use courses with a CENE prefix to satisfy liberal studies requirements
* Elective courses, if needed, to reach an overall total of at least 130 units

Please note that you may be able to use some courses to meet more than one requirement. Contact your advisor for details.

| Minimum Units for Completion | 130 |
| --- | --- |
| Mathematics Required | [MAT 239](http://catalog.nau.edu/Courses/course?courseId=005224&catalogYear=1314) |
| Additional Fees/Program Fees | Required |
| University Honors Program | Optional |
| Integrated Undergraduate/Graduate Plan | Optional |
| Progression Plan | [View Progression Plan](http://catalog.nau.edu/ProgressionPlans/index.jsp?inst=NAU00&cat=1314#CIEGRBSEX) |

*Major Requirements*Take the following 110 units:Preprofessional Requirements (57 units)Mathematics and Science courses (30 units)* MAT 136\*, MAT 137\*, MAT 238\*, MAT 239 (15 units)
* CHM 151\*, CHM 151L (5 units)
* PHY 161\*, PHY 262\* (7 units)
* Select from: (BIO 181 and BIO 181L), (BIO 182 and BIO 182L), (GLG 101 and GLG 103), GLG 107, (GLG 112 and GLG 112L), GLG 115, ENV 230 (3-4 units)

Engineering Science courses (24 units)* EGR 186\* (3 units)
* CENE 180\*, CENE 225\*, CENE 251\*, CENE 253\*, CENE 253L, CENE 286\* (15 units)
* ME 252, ME 291 (6 units)

Additional requirements include:* PHI 105 or PHI 331 (3 units)

Major Courses (53 units)* CENE 150, CENE 270\*, CENE 333\*, CENE 333L, CENE 336\*, CENE 376\*, CENE 383\*, CENE 383L\*, CENE 401, CENE 418, CENE 420\*, CENE 431, CENE 438, CENE 450, CENE 476\* (38 units)
* EGR 386W \* (3 units)
* CENE 486C (3 units)

Select Technical coursework; including at least 6 units with CENE prefixes, from (9 units):* CENE 280, CENE 330, CENE 332, CENE 335, CENE 410, CENE 434, CENE 436, CENE 437, CENE 440, CENE 457, CENE 460, CENE 462, CENE 477, CENE 485, CENE 497, CENE 499, CENE 540, CENE 541, CENE 543, CENE 545, CENE 550, CENE 551, CENE 560, CENE 562, CENE 568
* CM 329, CM 388, CM 391, CM 460, CM 499
* CS 122
* EE 188
* ME 340, ME 435, ME 450, ME 451, ME 454, ME 455

\*Prerequisities to Engineering coursework that must be completed with grades of "C" or better. In addition, ENG 105 must be completed with a grade of "C" or better.If you wish to enhance your education in the area of environmental engineering, mechanical engineering, mathematics, or construction management, you can easily pursue a minor in each discipline with the addition of a small number of courses and by consulting with the respective disciplinary advisors.*General Electives*Additional coursework is required, if, after you have met the previously described requirements, you have not yet completed a total of 130-136 units of credit. You may take these remaining courses from any academic areas, using these courses to pursue your specific interests and goals. We encourage you to consult with your advisor to select the courses that will be most advantageous to you. (Please note that you may also use prerequisites or transfer credits as electives if they weren't used to meet major, minor, or liberal studies requirements.)*Additional Information*You may not have more than one grade of "D" in your required engineering, mathematics, and science courses. In addition, all prerequisite courses for your engineering courses must be completed with grades of "C" or better.Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor.*Integrated Undergraduate/Graduate Plan Option*This program is available as an Integrated Undergraduate/Graduate Plan. Integrated Programs provide the opportunity for outstanding undergraduates working on their bachelor’s degree to simultaneously begin work on a master’s degree, allowing them to complete both degrees in an accelerated manner. Students must apply to the master’s program by the application deadline, and meet all requirements as listed on the Integrated Program website (insert link to integrated degree secondary page) to be considered for admission. Admission to programs is competitive. Many qualified applicants are denied because of limits on the number of students admitted each year. Be sure to speak with your advisor regarding your interest in Integrated Programs. PROGRAM FEE INFORMATIONProgram fees are established by the Arizona Board of Regents (ABOR). A program fee of $500 per year in students' Junior and Senior years has been approved for this program. | Show the proposed changes in this column.  **Bold** the changes, to differentiate from what is not changing, and change font to **~~Bold Red with strikethrough~~** for what is being deleted.***Civil Engineering; B.S.E.*** In addition to University Requirements:* At least 57 units of preprofessional requirements
* At least 53 units of major courses
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* Elective courses, if needed, to reach an overall total of at least 130 units

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* CM 329, CM 388, CM 391, CM 460, **~~CM 499,~~ CM 403**
* CS 122
* EE 188
* ME 340, ME 435, ME 450, ME 451, ME 454, ME 455

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* **Be employed in the engineering field or a professional field consistent with one’s career goals, or pursuing a graduate degree;**
* **Participate in continuing education or professional development activities;**
* **Be a registered professional engineer or be pursuing registration if consistent with one’s career goals;**
* **Demonstrate a career path that shows development as a leader; and**
* **Engage in activities that benefit society**
* You may not have more than one grade of "D" in your required engineering, mathematics, and science courses. **~~In addition, all prerequisite courses for your engineering courses must be completed with grades of "C" or better.~~**

Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor.*Integrated Undergraduate/Graduate Plan Option*This program is available as an Integrated Undergraduate/Graduate Plan. Integrated Programs provide the opportunity for outstanding undergraduates working on their bachelor’s degree to simultaneously begin work on a master’s degree, allowing them to complete both degrees in an accelerated manner. Students must apply to the master’s program by the application deadline, and meet all requirements as listed on the Integrated Program website (insert link to integrated degree secondary page) to be considered for admission. Admission to programs is competitive. Many qualified applicants are denied because of limits on the number of students admitted each year. Be sure to speak with your advisor regarding your interest in Integrated Programs. PROGRAM FEE INFORMATIONProgram fees are established by the Arizona Board of Regents (ABOR). A program fee of $500 per year in students' Junior and Senior years has been approved for this program. |

8. Justification for proposal:

**Program Educational Objectives revised / approved by protocol/process for revision; these must be published in catalog as per accreditation requirements.**

**The CM 499 course was renamed as CM 403.**

9. NCATE designation, if applicable**:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [ ]  Initial Plan |  | [ ]  Advanced Plan |  | [ ]  Remove Designation |
| 10. Effective beginning **FALL**: | **2014** |  |
|  [**See effective dates calendar**](http://www4.nau.edu/avpaa/timelines/1314Effective.xls). |  |

11. Will this proposal impact other plans, sub plans, or course offerings, etc.? Yes [ ]      No [x]

   If yes, describe the impact. If applicable, include evidence of notification to and/or response from

 each impacted academic unit

**Answer 12-13 for UCC/ECCC only:**

12. A major is differentiated from another major by required course commonality: 24 units of the        required credit hours of a major must be unique, (i.e. not common or not dual use as a required        element in another major), to that major. Does this plan have 24 units of unique required        credit? Yes [x]       No [ ]

13. Minor: A planned group of courses from one or more subject matter areas consisting of at least        18 hours and no more than 24 hours. At least 12 hours of the minor must be unique to that minor        to differentiate it from other minors.

         Does this minor have 12 units of unique required credit? Yes [ ]       No [ ]

**Answer 14-15 for UGC only:**

14. If this is a non-thesis plan, does it require a minimum of 24 units of formal graded coursework?                                                                                                                                       Yes [ ]       No [ ]

       If no, explain why this proposal should be approved.

15. If this is a thesis plan, does it require a minimum of 18 units of formal graded coursework?                                                                                                                                       Yes [ ]       No [ ]

       If no, explain why this proposal should be approved.

|  |  |
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| **FLAGSTAFF MOUNTAIN CAMPUS** |  |
| **Scott Galland** | **1/10/2014** |
| Reviewed by Curriculum Process Associate | Date |
|  |  |
| **Approvals**: |  |
|  |  |
| Department Chair/Unit Head (if appropriate) | Date |
|  |  |
| Chair of college curriculum committee | Date |
|  |  |
| Dean of college | Date |
|  |  |
| **For Committee use only:** |  |
|  |  |
| UCC/UGC Approval | Date |

Approved as submitted: Yes [ ]  No [ ]

Approved as modified: Yes [ ]  No [ ]

|  |  |
| --- | --- |
| **EXTENDED CAMPUSES** |  |
|  |  |
| Reviewed by Curriculum Process Associate | Date |
|  |  |
| **Approvals:**  |  |
|  |
| Academic Unit Head | Date |
|  |
| Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  |
| Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning) | Date |
|  |
| Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  |
| Chief Academic Officer; Extended Campuses (or Designee) | Date |
|  |  |

Approved as submitted: Yes [ ]  No [ ]

Approved as modified: Yes [ ]  No [ ]