

**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: | **CENFS** | | | 2. Academic Unit: | | | **Biological Studies** |
|  | |  |  | |  | | |
| 3. Academic      Plan Name: | | **Biology-Secondary Education; B.S.Ed. (BIOBSEDX)** | | 4. Emphasis: | |  | |

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| 5. Plan proposal: | | 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.  Learning outcomes are specified by NCATE. They include the application of the following learning outcomes to the science classroom: Candidates can understand and can articulate the knowledge and practices of contemporary science; can engage students effectively in studies of the history, philosophy, and practice of science. Candidates enable students to distinguish science from non-science, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science. Candidates can engage students both in studies of various methods of scientific inquiry and in active learning through scientific inquiry. They encourage students, individually and collaboratively, to observe, ask questions, design inquiries, and collect and interpret data in order to develop concepts and relationships from empirical experiences. Candidates can recognize that informed citizens must be prepared to make decisions and take action on contemporary science- and technology-related issues of interest to the general society. They require students to conduct inquiries into the factual basis of such issues and to assess possible actions and outcomes based upon their goals and values; create a community of diverse learners who construct meaning from their science experiences and possess a disposition for further exploration and learning. Candidates can use, and can justify, a variety of classroom arrangements, groupings, actions, strategies, and methodologies. They plan and implement an active, coherent, and effective curriculum that is consistent with the goals and recommendations of the *National Science Education Standards*. They begin with the end in mind and effectively incorporate contemporary practices and resources into their planning and teaching. Candidates can relate their discipline to their local and regional communities, involving stakeholders and using the individual, institutional, and natural resources of the community in their teaching. They actively engage students in science-related studies or activities related to locally important issues. Candidates can construct and use effective assessment strategies to determine the backgrounds and achievements of learners and facilitate their intellectual, social, and personal development. They assess students fairly and equitably, and require that students engage in ongoing self-assessment. Candidates organize safe and effective learning environments that promote the success of students and the welfare of all living things. They require and promote knowledge and respect for safety, and oversee the welfare of all living things used in the classroom or found in the field. Candidates strive continuously to grow and change, personally and professionally, to meet the diverse needs of their students, school, community, and profession. They have a desire and disposition for growth and betterment.  These learning outcomes come directly from standards for secondary teachers of the National Science Teachers Association and the Arizona Professional Teaching Standards, which have also been aligned to INTASC standards in our NCATE approved assessment plans for the NAUTeach and the Certificate-Mathematics or Science Teaching (C-MOST). | 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/>)Biology-Secondary Education; B.S.Ed. In addition to University Requirements:   * At least 99 units of major requirements which includes at least 31 units of Mathematics and Science Teaching requirements * Be aware that you may not use courses with a BIO prefix to satisfy liberal studies requirements * Elective courses, if needed, to reach an overall total of at least 120 units   Candidates in this program are required to demonstrate content knowledge, pedagogical knowledge and skills, professional knowledge, and professional dispositions to be eligible to enter student teaching or internship placements. Content, pedagogical, and professional knowledge or skills, professional dispositions are demonstrated through candidate performance on key assessments embedded in the following course(s):  TSM 350, TSM 404, TSM 450, TSM 495C, TSM 496C, BME 437  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 | 120 | | --- | --- | | GPA | 2.5 | | Mathematics Required | [MAT 125](http://catalog.nau.edu/Courses/course?courseId=005205&catalogYear=1314) | | Additional Admission Requirements | Required | | Fieldwork Experience/Internship | Optional | | Student Teaching/Supervised Teaching | Required | | University Honors Program | Optional | | Progression Plan | [View Progression Plan](http://catalog.nau.edu/ProgressionPlans/index.jsp?inst=NAU00&cat=1314#BIOBSEDX) |   *Additional Admission Requirements*  Admission requirements over and above admisssion to NAU are required.  To be eligible for admission to the teacher education program, candidates must meet the following requirements and apply for the program online.  30 units of coursework which includes:   * TSM 101 and TSM 102 with grades of "C" or better * Program Mathematics Foundations requirement with a grade of "C" or better * The English foundations requirement (ENG 105 or equivalent) with a minimum GPA of 3.0. (If your English GPA is below 3.0, you may take an approved writing course to achieve the 3.0 GPA.) * Completion of or enrollment in TSM 300, Knowing and Learning * A minimum GPA of 2.5 in all content major coursework (must have taken at least 6 units) AND one of the following grade point average requirements:   + A cumulative 2.5 GPA in Liberal Studies courses   + A cumulative 2.5 GPA in all courses * You must be declared in this major * Completion of a teacher-education orientation for Secondary Education * Submission of a copy of your State-approved Identity-Verified Print (IVP) fingerprint clearance card, obtainable through the Arizona Department of Public Safety (602-223-2279)   *Major Requirements*  Take the following 99 - 102 units including 40 units of Biology courses with a Grade of "C" or better:  Biology courses (40 units)   * BIO 181, BIO 181L, BIO 182, BIO 182L (8 units) * BIO 326, BIO 326LW (4 units) * BIO 240, BIO 344 (6 units) * BIO 435C (3 units)   Physiology - Select one of the following options:   * BIO 425C, BIO 425L (4 units) * BIO 201, BIO 201L (If you select this option, BIO 202 and BIO 202L are strongly encouraged for elective credit) (4 units)   Botany   * Select from: BIO 284, BIO 374, BIO 410, BIO 414, BIO 415, BIO 426C, BIO 426L, BIO 431, BIO 517, BIO 536, BIO 570 (3 units)   Additional coursework to complete 40 units in the major. The following rules apply to course selection (12 units):  Inclusions: Any BIO course not excluded or limited below.  Exclusions: BIO 100, BIO 100L, BIO 310, and BIO recitation (R) courses  Limitations:   * Up to 3 units of BIO 300 * Up to 6 units from BIO 408, BIO 485, BIO 497, BIO 498 * Up to 6 units from FOR 203, FOR 204, FOR 205, CHM 360, CHM 461   Science Support courses (28-31 units)   * (MAT 125 and STA 270) or MAT 136 (4-7 units) * CHM 151, CHM 151L, CHM 152, CHM 152L, CHM 230, CHM 230L (13 units) * PHY 111 (4 units) * GLG 101, GLG 103 (4 units) * PHI 359 (3 units)   Mathematics and Science Teaching Courses (33 units)   * TSM 300 with a grade of "C" or better (3 units) * TSM 495C (12 units) * TSM 496C with a grade of "B" or better (1 unit)   Note: Together, TSM 496C and TSM 495C meet Northern Arizona University's senior capstone requirement.  In order to be approved for student teaching, you must complete the following 15 units, earning a grade of "B" or better in four of the five courses and earning a "C" or better in the remaining course.   * BME 200, BME 437 (6 units) * TSM 350, TSM 404, TSM 450 (9 units)   *Teacher Preparation*  In all of our teacher education programs, you are required to apply for, and complete a student teaching or internship experience. Applications are due one year prior to the student teaching semester. In addition, a minimum number of units of practicum is required, which involves supervised field experience with a practicing teacher.  Before being accepted to student teaching, the following criteria must be met:   * Admission to the teacher education program * NAU GPA must be at least 2.5, with a GPA of 2.5 in all teacher preparation courses, with no grade lower than a "C" * Complete all plan requirements. * Take the appropriate AEPA Subject Knowledge test. * All major coursework, with the exception of TSM 101, must be completed within the six years prior to student teaching. * All candidates must demonstrate social and emotional maturity consistent with professional standards of classroom instruction as well as adequate physical health for teaching.   *Arizona Teacher Certification*  In order to obtain an Arizona teaching certificate you must pass both the appropriate National Evaluation Series subject matter test and the National Evaluation Series Secondary Assessment Professional Knowledge.  *General Electives*  Additional coursework is required, if, after you have met the previously described requirements, you have not yet completed a total of 120 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.)  Please note that you may take as an elective POS 220 (or POS 110 and POS 241), which satisfies the state and federal constitution requirement for Arizona certification, or you may meet the requirement by demonstrating proficiency on a special exam.  *Additional Information*  Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor. | 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. Biology-Secondary Education; B.S.Ed. In addition to University Requirements:   * At least **~~99~~** **100** units of major requirements which includes at least 31 units of Mathematics and Science Teaching requirements * Be aware that you may not use courses with a BIO prefix to satisfy liberal studies requirements * Elective courses, if needed, to reach an overall total of at least 120 units   Candidates in this program are required to demonstrate content knowledge, pedagogical knowledge and skills, professional knowledge, and professional dispositions to be eligible to enter student teaching or internship placements. 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8. Justification for proposal:

**This plan change proposal is concurrent with the BIO 305W and BIO 326LW course changes.**

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

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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

   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       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** | **1/27/2014** |
| 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

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| --- | --- |
| **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