

**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: | **Physics and Astronomy** |
|  |  |  |  |
| 3. Academic      Plan Name: | **Physics-Secondary Education; B.S. Ed. (PSPBSEDX)** | 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. Candidates in this plan will demonstrate content knowledge, pedagogical knowledge and skills, professional knowledge, and professional dispositions to be eligible to enter student teaching or internship placements. | 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/>)***Physics-Secondary Education; B.S.Ed.*** In addition to University Requirements:* At least 78 units of major requirements including at least 12-14 units of concentration requirements in mathematics or chemistry.
* At least 31 units of Mathematics and Science Teaching requirements.
* Be aware that you may not use courses with a PHY prefix to satisfy liberal studies requirements. Required courses in this major also satisfy 16 of your 35 liberal studies units. See your advisor for details.
* 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):Please note that you may be able to use some courses to meet more than one requirement. Contact your advisor for details.TSM 350, TSM 404, TSM 450, TSM 495C, TSM 496C, BME 437

| Minimum Units for Completion | 120 |
| --- | --- |
| GPA | 2.5 |
| Mathematics Required | [MAT 238](http://catalog.nau.edu/Courses/course?courseId=005223&catalogYear=1314) |
| Additional Admission Requirements | Required |
| 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#PSPBSEDX) |

*Additional Admission Requirements*Admission requirements over and above admission 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 betterProgram Mathematics Foundations requirement with a grade of "C" or betterThe 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 LearningA 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 coursesA cumulative 2.5 GPA in all coursesYou must be declared in this majorCompletion of a teacher-education orientation for Secondary EducationSubmission 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 7882 units:(PHY 161 or PHY 171\*) (4-5 units)(PHY 262/PHY 262L or PHY 172\*) (4-5 units)\* PHY 171 and PHY 172 are recommended in consultation with your advisor. PHY 263, PHY 264, PHY 361 (9 units**)**(AST 183 and AST 184L) or (AST 180 and AST 181) (4 units)MAT 136, MAT 137 (8 units)PHY 333W (3 units)PHI 359 (3 units)Concentration Requirements (Select One):Physics/Chemistry (14 units)CHM 151, CHM 151L, CHM 152, CHM 152L, CHM 230, CHM 230L, CHM 295 (14 units)Physics/Mathematics (12 units)MAT 185 (3 units)MAT 401 or MAT 402 (3 units)MAT 365 or MAT 320W (3 units)Select one of the following: MAT 226, STA 270, STA 275 (3 units)Note: It is highly recommended that all new students take our 1-unit first-year seminar, PHY 103.Mathematics and Science Teaching Courses (31 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 programNAU 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.In order to be approved for student teaching, you must complete these five courses, earning a grade of "B" or better in four of the five courses and earning a "C" or better in the remaining course.TSM 350, TSM 404, TSM 450 (9 units)BME 200, BME 437 (6 units)TSM 495C or ECI 495C (12 units)TSM 496C with a grade of "B" or better (1 unit)Note: Together, TSM 496C and (TSM 495C or ECI 495C) meet Northern Arizona University's senior capstone requirement.For the teacher-preparation portion of the plan, you must have an academic advisor in both your major department and in the NAUTeach program.*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*You may not count more than one "D" toward the major and emphasis requirements for this degree.Be aware that some courses may have prerequisites that you must also take. For prerequisite information click on the course or see your advisor.This degree plan is supported through the NAUTeach program.* http://nau.edu/CEFNS/CSTL/Degrees-Programs/NAUTeach/
 | 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.***Physics-Secondary Education; B.S.Ed.*** In addition to University Requirements:* At least **~~78~~** **76** units of major requirements **~~including at least 12-14 units of concentration requirements in mathematics or chemistry~~**.
* At least 31 units of Mathematics and Science Teaching requirements.
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PHY 263, PHY 264, **PHY 321,** PHY 361 (**~~9~~ 12** units)(AST 183 and AST 184L) **~~or (AST 180 and AST 181)~~** (4 units)MAT 136, MAT 137**, MAT 238, MAT 239** (**~~8~~** **15** units)PHY 333W (3 units)PHI 359 (3 units)**Note: It is highly recommended that all new students take our 1-unit first-year seminar, PHY 103****Optional** Concentration Requirements **for students wishing to obtain additional certification in chemistry ~~(Select One)~~**:**~~Physics/Chemistry (14 units)~~**CHM 151, CHM 151L, CHM 152, CHM 152L, CHM 230, CHM 230L, CHM 295 (14 units)**~~Physics/Mathematics (12 units)~~****~~MAT 185 (3 units)~~****~~MAT 401 or MAT 402 (3 units)~~****~~MAT 365 or MAT 320W (3 units)~~****~~Select one of the following: MAT 226, STA 270, STA 275 (3 units)~~****~~Note: It is highly recommended that all new students take our 1-unit first-year seminar, PHY 103.~~****Note: Students wishing to obtain additional certification in mathematics are encouraged to take the mathematics education minor.** Mathematics and Science Teaching Courses (31 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. 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For prerequisite information click on the course or see your advisor.This degree plan is supported through the NAUTeach program.* http://nau.edu/CEFNS/CSTL/Degrees-Programs/NAUTeach/
 |

8. Justification for proposal:

**In the recent 2008-2012 review of all NAUTeach programs by The UTeach Institute, our physics education program was singled out as being too weak in physics content. We agree with this criticism! In order to bolster the physics content our BSED students receive, we have deleted the 12-14 hour chemistry or math concentration requirement so that we were able to now include 10 additional hours to our major requirements: PHY321, MAT238, and MAT239.**

**Since we deleted our mathematics concentration, a note was included to direct students wishing to obtain dual certification in mathematics to pursue the mathematics education minor that is offered through the mathematics department. Since there is no chemistry education minor offered through the chemistry department, we are still including our previous chemistry concentration as part of our plan, but now it has been made optional.**

**We have coordinated these changes with CSTL the ensure that we continue to meet all NCATE and UTeach requirements.**

**Other minor changes**

**1. We have changed the language referring to PHY171 to make it "strongly preferred". The PHY171 course is our new intro course for majors which is more rigorous and better meets the needs of our students.**

**2. We moved the reference to PHY103 to be oriented right after physics major requirements. This change puts this reference closer to the major requirements for continuity purposes.**

**3. We have deleted the AST180+181 option for the astronomy requirement for our BSED majors. This allows our program to meet current NCATE requirements. We also feel that the AST183+184 sequence meets the needs of future physics teachers much better than our AST180+181 sequence.**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [x]  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 [x]      No [ ]

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

 each impacted academic unit

**See attached notification to/support from**: **CHM/MAT, and CSTL**

**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.

|  |  |
| --- | --- |
| **FLAGSTAFF MOUNTAIN CAMPUS** |  |
| **Scott Galland**  | **1/15/2014** |
| 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 [ ]

**From:** Terence Ronald Blows
**Sent:** Wednesday, January 08, 2014 2:20 PM
**To:** Stuart S Galland
**Subject:** FW: FW: Prerequisite Changes

Scott:

You may have already heard from Physics & astronomy, but just in case:

1) The Physics Secondary Ed degree is available with a Physics/Math concentration is going away and we will not need a letter of support from them.
2) We are fine with them dropping the Math concentration.

Thanks

terry

Terry

Sorry to take so long to get back to you on your course change.  As you may recall, we were coincidentally making changes to our BSED program and we wanted to finalize all of our changes so we could get those to you as we responded to your request.  As you will see in our attached plan change request, we have decided to delete our required emphases from our plan.  We have completely deleted our math emphasis and included a note directing students to take your math education minor instead.  We are leaving in the chemistry emphasis because they do not have a corresponding chemistry education minor, but it is now optional.

Therefore, in light of the changes that we are making, we no longer need to be consulted when you are making changes to your plan.  We would be greatly appreciative if you could send us an email to confirm that it is OK with you if we drop our math emphasis and direct students toward your math education minor.

Yours
Mark

**From:** Stuart S Galland
**Sent:** Tuesday, January 14, 2014 12:40 PM
**To:** Marin Sands Robinson
**Subject:** PHYSICS BSEd proposal

Hi Marin,

The Physics & Astronomy department is proposing to delete the concentration requirement  from their Physics Secondary Ed degree (see below in YELLOW).  The CHM coursework would be optional for students “wishing to obtain additional certification in Chemistry”

Thanks!

Scott Galland

Curriculum Process Associate

Office of Curriculum, Learning Design, and Academic Assessment

928-523-1753

928-699-9147 (cell)

scott.galland@nau.edu

**From:** Marin Sands Robinson
**Sent:** Tuesday, January 14, 2014 3:22 PM
**To:** Stuart S Galland
**Subject:** RE: PHYSICS BSEd proposal

This is fine with us!

Marin Robinson

-------- Original Message --------

|  |  |
| --- | --- |
| **Subject:**  | Re: Could we get an email of support for our BSED change? |
| **Date:**  | Mon, 6 Jan 2014 13:29:50 -0700 |
| **From:**  | Sharon Faye Cardenas <Sharon.Cardenas@nau.edu> |
| **To:**  | Mark Charles James <Mark.James@nau.edu> |
| **CC:**  | Pradeep Maxwell Dass <Pradeep.Dass@nau.edu> |

Mark: The CSTL approves the changes to the BSEd Physics program you have proposed. We do request that, prior to submission to the University Curriculum Committee, that the entire catalog description be put into the proposal (instead of a note at the end of the proposal plan change form). We are concerned that once this change form is copied into the new catalog, the full program description, including references to Teacher Preparation and Arizona Teacher Certification, may be left out unless it is clearly included in the 2 column change form description.