## .NAU_2L

**UCC/UGC/ECCC**

Proposal for New Course

***Please attach proposed Syllabus in*** [***approved university format***](http://www4.nau.edu/avpaa/UCCForms/syllabus.doc)***.***

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| --- | --- | --- | --- |
| 1. Course subject and number: | **BIO 365W** | 2. Units: | **3** |

[**See upper and lower division undergraduate course definitions.**](http://www4.nau.edu/avpaa/UCCPolicy/Uplow.doc)

|  |  |  |  |
| --- | --- | --- | --- |
| 3. College: | **CEFNS** | 4. Academic Unit: | **Biological Sciences** |

5**.** Student Learning Outcomes of the new course. *(*[*Resources & Examples for Developing Course Learning Outcomes*](http://www4.nau.edu/avpaa/Assessment/CourseLearningOutcomesPDF_090712.pdf)***)***

**Students will**

* **analyze and synthesize information from the current literature**
* **integrate the methods and findings of a research endeavor**
* **write and prepare a manuscript for publication in a professional trade journal. Every week, students submit writing exercises and sections of their manuscript. Writing is instructor and peer-reviewed, and students produce multiple revisions and drafts. By the end of the course, students will produce a manuscript, capable of being submitted for publication in a professional trade journal, no fewer than 20 pages long.**
* **demonstrate proficiency in a research topic by contributing to the current knowledge of the topic**

6. Justification for new course, including how the course contributes to degree program outcomes, or other university requirements / student learning outcomes. *(*[*Resources, Examples & Tools for Developing Effective Program Student Learning Outcomes*](http://www4.nau.edu/avpaa/Assessment/ProgramLearningOutcomesPDF_090712.pdf)*).*

**This course will contribute to the diversity of educational experiences available to NAU by providing students with the opportunity to integrate the methods and findings of a research endeavor into a scientific manuscript that students will prepare for publication in a scientific journal. This course will provide a unique opportunity, practical career-relevant training, and professional development of NAU’s conservation biology students. No other course presently offered provides these opportunities.**

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| --- | --- | --- |
| 7. Effective **BEGINNING** of what term and year? | **Fall 2014** |  |
| [**See effective dates calendar**](http://www4.nau.edu/avpaa/timelines/1314Effective.xls)**.** |  |  |

|  |  |
| --- | --- |
| 8.  Long course title: | **SCIENTIFIC MANUSCRIPT PREPARATION** |
| *(max 100 characters including spaces)* | |

|  |  |
| --- | --- |
| 9. Short course title: | **SCIENTIFIC MANUSCRIPT PREP** |
| *(max. 30 characters including spaces)* | |

10. Catalog course description *(max. 60 words, excluding requisites):*

**This course enhances learners’ technical writing skills, an essential skill defined in the University’s Liberal Studies Program, through practice of concise writing techniques and critical review (peer- and instructor-reviewed) of written work. Learners write a scientific manuscript and prepare it for submission for publication. Manuscripts are derived from research that learners perform in a prerequisite course.**

11. Will this course be part of any plan (major, minor or certificate) or sub plan (emphasis)?

                                                                                                                                    Yes  No

If yes, include the appropriate plan proposal.

**Biology BS**

12. Does this course duplicate content of existing courses? Yes  No

If yes, list the courses with duplicate material. If the duplication is greater than 20%, explain why NAU should establish this course.

13. Will this course impact any other academic unit’s enrollment or plan(s)?              Yes  No

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

each impacted academic unit

14. Grading option:      Letter grade Pass/Fail Both

|  |  |  |  |
| --- | --- | --- | --- |
| 15. Co-convened with: |  | 14a. UGC approval date\*: |  |
| (For example: ESE 450 and ESE 550) [See co-convening policy](http://www4.nau.edu/avpaa/UCCPolicy/crosslist.doc).  \*Must be approved by UGC before UCC submission, and both course syllabi must be presented. | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. Cross-listed with: |  | | |  | | | | |
| (For example: ES 450 and DIS 450) [See cross listing policy](http://www4.nau.edu/avpaa/UCCPolicy/crosslist.doc).        Please submit a single cross-listed syllabus that will be used for all cross-listed courses. | | | | | | | | |
| 17. May course be repeated for additional units? | | |  | | | Yes     No | | |
| 16a. If yes, maximum units allowed? | |  | | |  | | | |
| 16b. If yes, may course be repeated for additional units in the same term? | | | | | | |  | Yes     No |

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| --- | --- | --- |
| 18. Prerequisites: | **ENG 105, MAT 125, six hours of BIO 485 or equivalent or instructor approval** |  |

If prerequisites, include the rationale for the prerequisites.

**Demonstrated basic competencies in English and Mathematics are required for success in this course. Because students will integrate the methods and findings of a research endeavor into a scientific manuscript for publication in a scientific journal, undergraduate research is also required.**

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| --- | --- | --- |
| 19. Co requisites: |  |  |

If co requisites, include the rationale for the co requisites.

20. Does this course include combined lecture and lab components?                   Yes  No

If yes, include the units specific to each component in the course description above.

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| --- | --- |
| 21. Names of the current faculty qualified to teach this course: | **Any faculty member is qualified to teach this course.** |

22. Classes scheduled before the regular term begins and/or after the regular term ends may require

additional action.  Review “see description” and “see impacts” for “Classes Starting/Ending

Outside Regular Term” under the heading “Forms”

<http://nau.edu/Registrar/Faculty-Resources/Schedule-of-Classes-Maintenance/>.

Do you anticipate this course will be scheduled outside the regular term?   Yes  No

**Answer 22-23 for UCC/ECCC only:**

23. Is this course being proposed for Liberal Studies designation?             Yes  No

       If yes, include a [Liberal Studies proposal](http://www2.nau.edu/~d-ugstdy/_source/docs/LS_Proposal_form.doc) and syllabus with this proposal.

24. Is this course being proposed for Diversity designation?Yes    No

       If yes, include a [Diversity proposal](http://www4.nau.edu/avpaa/EthDiv/Divform2010.doc) and syllabus with this proposal.

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| --- | --- |
| **FLAGSTAFF MOUNTAIN CAMPUS** |  |
| **Scott Galland** | **2/20/2014** |
| 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

***Northern Arizona University***

***College of Engineering, Forestry, & Natural Sciences***

***Department of Biological Sciences***

***BIO 365W: Scientific Manuscript Preparation***

***Course Syllabus***

*General Information*

* Instructor: Nashelly Meneses, Ph.D.
* Instructor e-mail address: nm49@nau.edu
* Office location: Building 21, Room 337
* Office hours: 1 hour per week
* Course meeting times: 3 hours per week
* Course meeting place: Building 21, Room TBA
* Course credit: 3 hour

*Course Prerequisites*

* ENG 105, MAT 125, six hours of BIO 485 or equivalent or instructor approval

*Course Description*

This course enhances learners’ technical writing skills through practice and critical review of written work. Learners write an authentic scientific manuscript and prepare it for publication in a professional trade journal. Manuscripts are derived from authentic research that learners perform in a prerequisite course, internship, or independent study experience. Weekly writing is peer- and instructor-reviewed; concise writing techniques and emphasized. The publication process is reviewed, and manuscript submission is facilitated.

*Liberal Studies Information*

This course prepares students to make meaningful, articulate, and creative contributions to public knowledge in the primary literature. It challenges students to convert their authentic research experience (from another course, internship, or independent study experience) into a well-written manuscript ready for submission to a peer-reviewed journal. It prepares them as undergraduates to be creative and critical writers and effective communicators of science. The course enhances a professional skill useful in careers in academia, research, and business.

Through the program students acquire a broad range of knowledge and develop essential skills for professional success and life beyond graduation. In addition to discipline specific skills, this course will emphasize effective writing, an essential skill defined in the University’s Liberal Studies Program*.*

This is a 300 level course where students produce 20 pages of revised, multiple-draft prose. Professional, scientific writing strategies related to conventions used in scientific manuscripts, the value of peer-review and critical revision in the process of composition, and how to succinctly summarize and present complex scientific ideas are discussed weekly. Students employ these strategies in multiple revisions of their work. This course fulfills NAU's junior-level writing requirement.

*Student Learning Expectations/Outcomes :*

Students will

* analyze and synthesize information from the current literature
* integrate the methods and findings of a research endeavor
* write and prepare a manuscript for publication in a professional trade journal. Every week, students submit writing exercises and sections of their manuscript. Writing is instructor and peer-reviewed, and students produce multiple revisions and drafts. By the end of the course, students will produce a manuscript, capable of being submitted for publication in a professional trade journal, no fewer than 20 pages long.
* demonstrate proficiency in a research topic by contributing to the current knowledge of the topic

*Course Structure/Approach:*

* One 3 h session per week is devoted toward achieving the learning outcomes stated above.

*Textbook :*

* Hofmann, A. H. (2010). *Scientific writing and communication: papers, proposals, and presentations*. Oxford University Press.

*Course Outline:*

Tentative schedule

|  |  |  |
| --- | --- | --- |
| Date | Topic | Assignment |
| Week 1 | Style and composition: Words and word location | Gopen and Swan 1990  Chapter 2 and 3 |
| Week 2 | Style and composition: sentences and paragraphs | Chapter 4 and 6 |
| Week 3 | Manuscript outline | Identify: question, hypothesis, methods, predictions, results, conclusions  7.4-7.5 |
| Week 4 | Plagiarism and authorship  Text citations | 7.3, 8.5-8.6  8.1-8.4 |
| Week 5 | Methods | Chapter Ch11  Methods section  Description of methods followed  Include relevant literature |
| Week 6 | Methods | Methods section due |
| Week 7 | Results | Ch 12 and 9  Results section  Written and graphical descriptions of relevant findings  Include relevant literature  Maps, graphs and tables  Revise Methods section |
| Week 8 | Results | Results section due |
| Week 9 | Discussion | Ch 13  Discussion section  Synthesis of results in light of published literature  Include 5 relevant citations  Revise Results section |
| Week 10 | Discussion | Discussion due |
| Week 11 | Introduction | Ch 10  Introduction section  Background information  Unknown/problem  Question  Experimental approach  Revise Discussion |
| Week 12 | Introduction | Introduction due |
| Week 13 | Abstract and Title  References  Acknowledgements  Target journal | Ch 14-15, 7.2  8.8  8.12  Journal selection and Author guidelines due  Revise Introduction |
| Week 14 | Revisions and formatting |  |
| Week 15 | Revisions and formatting | Manuscript following journal guidelines |
| Week 16 | Cover letter |  |

*Assessment of Student Learning Outcomes*

* Methods of assessment.

Item Number Value

Exercises 6 5 ea (30 points total)

Section 4 5 ea (20 points total)

Revised section 4 10 ea (40 points total)

Manuscript 1 40

Final manuscript w/ 1 100

cover letter

Total Points 230

* Grading criteria. Letter grade only.

90%-100% A

80%-89% B

70%-79% C

60%-69% D

59% or less F

*Course Policies*

* Assignments. Students will be evaluated on their ability to organize, communicate, and synthesize complex scientific information in written form following guidelines for submission of a scientific manuscript to a scientific journal.
* Makeup assignments. Assignments can be completed for full credit any time during the normally scheduled course. Missed assignments, competencies, and tests that are not made up during the duration of the course will cause an “I” to be issued as a final grade in the course, until alternative arrangements can be made. Alternative arrangements will be agreed upon by the student and course instructor.
* Cell phone and personal data assistant (PDA) use. Students may not use cell phones or PDAs in class. Ringtones must be turned off. Students may not engage in text messaging. Students who inappropriately use their cell phone or PDA in the classroom will be warned and/or asked to leave.
* Attendance. Full attendance is required. A pattern of delinquency or absence could affect the final grade or result in automatic withdrawal from the course.
* Curricular changes. The instructor reserves the right to make additions, deletions, and modifications to the syllabus, curriculum, and course requirements with reasonable notification to the students enrolled.

**Northern Arizona University**

**Policy Statements**

**Safe Environment Policy**

NAU’s Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university.

You may obtain a copy of this policy from the college dean’s office or from the NAU’s Affirmative Action website [http://home.nau.edu/diversity/.](http://home.nau.edu/diversity/) If you have concerns about this policy, it is important that you contact the departmental chair, dean’s office, the Office of Student Life (928-523-5181), or NAU’s Office of Affirmative Action (928-523-3312).

**Students with Disabilities**

If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice)or 523-6906 (TTY), [dr@nau.edu](mailto:dr@nau.edu) (e-mail)or 928-523-8747 (fax).Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation ([www.nau.edu/dr](http://www.nau.edu/dr)) 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of student with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

**Institutional Review Board**

Any study involving observation of or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities.

The IRB meets monthly. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures.

A copy of the IRB *Policy and Procedures Manual* is available in each department’s administrative office and each college dean’s office or on their website: <http://www.research.nau.edu/vpr/IRB/index.htm>. If you have questions, contact the IRB Coordinator in the Office of the Vice President for Research at 928-523-8288 or 523-4340.

**Academic Integrity**

The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU’s administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix G of NAU’s *Student Handbook* http://www4.nau.edu/stulife/handbookdishonesty.htm**.**

**Academic Contact Hour Policy**

The Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-206, Academic Credit) states: “an hour of work is the equivalent of 50 minutes of class time … at least 15 contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium as well as a minimum of 30 hours of student homework is required for each unit of credit.”

*The reasonable interpretation of this policy is that for every credit hour, a student should expect, on average, to do a minimum of two additional hours of work per week; e.g., preparation, homework, studying.*

**Sensitive Course Materials**

University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter—and critically appraise—materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.