

**Submit one printed copy of this form with signatures and one printed copy of the syllabus to the Provost/VPAA's Office (Austin Building, Room 309). Initial submissions are due no later than February 15, 2013.**

1. College: **College Sciences and Mathematics**
2. Department: **Biology**
3. Course status: **existing; does not require modification**
4. Course prefix and number: **BIO 133**
5. Course title: **Principles of Zoology**
6. Course catalog description: **4 semester hours, 3 hours lecture per week, 2 hours lab per week. Fundamental principles of animal life, including invertebrate and vertebrate animals. Required labfee.**
7. Number of semester credit hours: **4**
8. Estimated total course enrollment per year: **300**
9. Course prerequisites and/or required qualifications for enrolling in the class: **TSI complete**
10. Course **is not/will not be** available online.
11. Foundational Component Area: **Life and Physical Sciences**
12. Explain why this course fits into this foundation component area: **Principles of Zoology examines the evolution and ecology of animal diversity. Lectures introduce students to the nature of science and scientific comparative methods, how major animal lineages are related on the evolutionary tree of life and how different animal groups evolve anatomical, physiological and behavioral adaptations to meet ecological challenges. Laboratories reinforce lecture materials with exercises that demonstrate anatomical and physiological diversity and compare key morphological traits among animal groups. Labs will also teach students how to find and critically assess information from primary literature articles and methods used to collect and analyze data and report scientific information.**
13. Core Objectives

Critical Thinking- Students will learn, via a screencast lecture, ways to find, read and assess scientific papers. Students will learn how to differentiate primary literature from gray literature and articles from popular press and informal Internet sources. Students will learn to locate a paper's study objectives and/or hypotheses and evaluate the quality of information and the organization of key portions of a paper (introduction, methods, results, discussion). These skills will be used in many subsequent lab assignments (see syllabus). Students will also be instructed on how to work in teams to form hypotheses and conduct basic experiments and phylogenetic comparative analyses in several labs (see syllabus). Teams will be required to examine their data, form conclusions and defend their conclusions and to reconcile differences in results and conclusions that might exist in comparisons with other teams. **Assessment of critical thinking will be based on the week 13 lab assignment "Hypothesis testing: shoaling behavior in zebrafish" using a rubric that will quantify students' creative thinking, depth of inquiry, level of analytical detail, and ability to evaluate results, integrate information and derive logical conclusions.**

Communication Skills- Students will be instructed on how to communicate effectively in two basic types of laboratory assignments. First, students will verbally communicate their assessments of primary literature articles in team discussions. Each team member will submit written summaries of their assessments using double-entry journals and use peer comparison rubrics that score the quality of information communicated by fellow team members. **Assessment of oral communication skills will be based on the peer comparison rubric scores from the paper discussions in week 14.** Second, teams will form and test hypotheses and conduct basic experimental studies. Teams will turn in a lab report that contains the following elements: the hypothesis, a description of the study methods, a copy of the Excel datasheet, figures used to interpret the data, a discussion with the team's conclusions, and a critique of the team's study. **Assessment of written and visual communication skills will be based on rubric scores of lab reports from the week 13 lab assignment "Hypothesis testing: shoaling behavior in zebrafish".**

Empirical and Quantitative Skills- Students will be instructed on how to develop empirical and quantitative skills while collecting data in biological studies in several labs (see syllabus). Students will learn how to develop Excel data sheets, record data, compute basic summary statistics, compare relevant variables and draw conclusions from their analyses. Data types will include morphological measurements and quantification of animal behaviors. Students will also gain a better understanding of empirical and quantitative issues during their critical assessment of result in primary literature articles. **Assessment of critical thinking will be based on the week 13 lab assignment "Hypothesis testing: shoaling behavior in zebrafish" using a rubric that will quantify students' abilities to record data, integrate information, and derive logical conclusions.**

Teamwork- Students will be instructed on how to work effectively in teams via a screencast lecture posted on D2L. Students will work in teams of four in labs to perform each biological experiment and phylogenetic comparative analysis (see syllabus). Teams members will be presented with strategies for effective teamwork so that they may work more efficiently together to collect and analyze data and to more effectively communicate results. **Assessment of empirical and quantitative skills will be based on the week 8 lab assignment "Hypothesis testing: flatworm phototropism" using a peer evaluation rubric that will quantify each members role in the study. Combined rubric scores for each team will then be compared to the quality of the final lab report for each team.**

14. Email the syllabus for this course to [brewersj@sfasu.edu](mailto:brewersj@sfasu.edu). Please include the course prefix, course number and the word "Syllabus" in the file's title (e.g. PSC 141 Syllabus).
- The syllabus must meet the SFASU Course Syllabus Guidelines as published by the Provost/VPAA. A link to these guidelines can be found at <http://www.sfasu.edu/acadaffairs>.
  - Student learning outcomes should be clearly specified in the syllabus. These are course objectives—describing what students who complete the course will know or be able to do. Required core objectives (see above and [Appendix 2](#)) should be represented in the student learning outcomes.
  - A course calendar should be included in the syllabus. The calendar should list the topics that the course will cover and indicate the approximate amount of time to be devoted to each, either by percent of course time or number of weeks. The outline should indicate which topics will be required in all sections of the course and which may vary. If time in the course is to be specifically devoted to the required core objectives (see above and [Appendix 2](#)), that should be indicated in the course calendar.

Contact person for questions about this submission:

- a. Brent Burt
- b. 468-2482
- c. [dbburt@sfasu.edu](mailto:dbburt@sfasu.edu)

A separate description of the institution-level assessment procedures to be used for the core curriculum will be distributed by the Core Curriculum Assessment Committee. Course acceptance by the Core Curriculum Advisory Committee does not guarantee acceptance by the Core Curriculum Assessment Committee. Approval by both committees is required for a course to be included in the core.

Department chairperson signature:

\_\_\_\_\_ Date: \_\_\_\_\_

College dean signature:

\_\_\_\_\_ Date: \_\_\_\_\_

