Syllabus
Idaho State University: Bios 413/513 Biology Teaching Methods

Course material is available to students using an on-line course format (WebCT). The following syllabus provides a summary of the information available on the course website. More extensive materials and links to websites are embedded in the WebCT syllabus.

Faculty: Dr. Rosemary J. Smith, Dr. Paul Beardsley; Dept. of Biological Sciences
Gale Life Sciences Building, Idaho State University.

Course description:
This course is designed to give students practical experience in teaching biology at the high school level. Students are expected to demonstrate various teaching methods, learn to use scientific equipment, provide feedback to peers, and reflect on their own professional development as science teachers. The course integrates biology content knowledge and teaching skills, as described in the National and Idaho Science Education Standards.

Location: Plant Sciences Lab, Meeting time(s) Wednesday 1-5 PM
Prerequisite(s) Education 201/204, 301/302, concurrent enrollment in ED 309 preferred, 16 credit hours of Biology, or by permission of instructors.

Course Goals
1.To become aware of personal strengths and weaknesses in biological content knowledge, conceptual understanding, and teaching skills,
2.To understand and be able to confidently use various teaching methods such as inquiry, discussion, and demonstration
3.To effectively use resources (internet, journals, mentors) and technology to improve teaching
4.To create, critique, and implement science lessons
5.To demonstrate mastery of major concepts and themes in biology
6.To use resources that promote and enhance professional development
7.To reflect on teaching and professional development
8.To design and implement assessment strategies that facilitate improvements to biology teaching.

Expectations
There are high expectations of students concerning assignment quality, preparation of lessons, completion of outside readings, video viewing, and online discussions.

Additional information
Students are required to attend ALL class sessions. Active participation during class time and in the online discussions is absolutely essential.

Textbooks: Paper and FREE online versions
Teaching about Evolution and the Nature of Science, National Academy Press, 1998,
Available free online at http://www.nap.edu

Inquiry and the National Science Education Standards: A guide for teaching and learning. National Academy Press, 2000, Available free online at http://www.nap.edu
NSTA PATHWAYS to the Science Standards, High School Edition, Guidelines for moving the vision into practice. NSTA.

Course Requirements

Students are required to prepare biology lessons, deliver them, and engage in on-line discussions about teaching. All students will also participate as "students" in biology lessons, prepare and evaluate classroom assessments, demonstrate professional development, and apply technology to teaching. Teaching sessions will be videotaped for review and self-critique.

1. Introductions. Individual students practice introducing biology lessons (10 minutes). On-line discussions and critiques follow lessons
2. Demonstrations. Students demonstrate biological concept using equipment and models (20 minutes, repeated 3 times).
3. Individual teaching. Students present 45-minute lessons using active/inquiry based learning, data collection and analysis. On-line discussions and critiques follow lessons.
4. Practical Examination of science teaching. Students demonstrate the skills necessary to set up and operate lab equipment and biological experiments, respond to questions about inquiry teaching and professional development opportunities..
5. Professional Development. Readings & Videotapes of Case Studies of Science Teaching. These are to be completed outside of class and integrated into discussions and reflections.
6. Portfolio. Portfolio will include a collection of assigned reflections on teaching and professional development, lesson plans, and integration of course materials. Includes exit interview to demonstrate growth in teaching skills.
7. Panel questions. Students will prepare questions for panelists (in-service teachers and student teachers).

ISU Policies
Academic Integrity: Read "Code of Student Conduct"
Disabilities : ISU seeks to maintain a supportive environment for students with disabilities. If you need accommodations in this course, please notify the Disabilities Resource Center on campus so that an accommodation plan can be put into place.

Course Grades: Categories for Evaluation
Teaching Practicum (70%):
- Introduction
- Demonstration
- Individual Teaching
- Practical Exam

Reflections (15%)
Participation (10%)
Improvement/Exit Interview (5%)