Evaluation of Program in Secondary Science
Fall 2013 Course Syllabus and Timeline

AUBURN UNIVERSITY
SYLLABUS

1. **Course Number**: CTSE 7540
Course Title: Evaluation of Program in Secondary Science
Credit Hours: 3 semester hours
Prerequisites: None
Corequisites: None

2. **Date Syllabus Prepared**: January 2006; revised August, 2013.
Term: Fall 2013
Day/Time: Thursdays 5:00pm – 8:00 pm
Instructor: Dr. Christine Schnittka
Office Address: 5072 Haley Center
Contact Information: schnittka@auburn.edu or (334) 844-8277
Office Hours: Monday 4:30pm – 6:00pm, Thursday 3:30pm – 5:00pm, and by appointment

3. **Texts or Major Resources**:
a) Reynolds, C.R., Livingston, R.B., & Willson, V. (2009). *Measurement and assessment in education (2nd ed.)*. Upper Saddle River, NJ: Pearson Education, Inc.
Paperback- 519 pages- ISBN-13: 978-0-205-57934-1

Additional articles and readings may also be disseminated and are considered required reading. Any additional assigned readings will be disseminated and/or posted on Canvas at least one week prior to the assigned due date for discussion.

Please note that this syllabus is subject to minor revisions or amendments at the discretion of the instructor.

4. Course Description: Theoretical perspectives of evaluation and methods of evaluating learners, teachers, and curricula.

5. Student Learning Outcomes:

This course examines theoretical perspectives of evaluation and methods of evaluating learners, teachers, and curricula. This course is a practical introduction to student assessment and evaluation. Students will define the basic terminology of assessment and evaluation. Students will study the importance of science education assessments and their meanings on the international, national, state, and district level. Students will also learn how to critically examine standardized testing. For secondary science instruction, students will learn how to create valid and reliable assessment instruments for a variety of learning objectives.

This course will also investigate science teaching effectiveness, with attention to the instruments and models of assessment currently in use for research in science education. We will discuss evaluation of cognition, attitudes, and skills for science students. We will constantly ask, "What do [your] students know?" "How can you help them demonstrate it?" "How confident can you be of the results of evaluation?" "What does a grade in your class mean?"

To provide opportunities so that students will have:

A. Knowledge of the purposes, strengths, and limitations of formative and summative assessment and of formal and informal assessment strategies. 290-3-3-.04(2)(c)5.(i)
B. Knowledge of measurement-related issues such as validity, reliability, norms, bias, scoring concerns, and ethical uses of tests and test results. 290-3-3-.04(2)(c)5.(iii)
C. Knowledge of assessment tools to monitor the acquisition of reading strategies, to improve reading instruction, and to identify students who require additional instruction. 290-3-3-.04(3)(c)2(ii)
D. Knowledge of the role that mathematics plays in everyday life. 290-3-3-.04(3)(c)3.(i)
E. Knowledge of the concepts and relationships in number systems 290-3-3-.04(3)(c)3.(ii)
F. Knowledge of the appropriate use of various types of reasoning, including inductive, deductive, spatial and proportional, and understanding of valid and invalid forms of reasoning. 290-3-3-.04(3)(c)3.(iii)
G. Knowledge of both metric and customary measurement and fundamental geometric concepts, including shapes and their properties and relationships. 290-3-3-.04(3)(c)3.(iv)
H. Ability to solve problems using different strategies, to verify and interpret results, and to draw conclusions. 290-3-3-.04(3)(c)3.(v)
I. Ability to communicate with other about mathematical concepts, processes, and symbols. 290-3-3-.04(3)(c)3.(vi)
J. Knowledge of Alabama's state assessment requirements and processes. 290-3-3-.04(5)(c)c(ii)
K. Knowledge of research relating collective responsibility for student learning to increased achievement for all students. 290-3-3-.04((5)(c)4(i)

<u>Cultural Diversity</u>

"I don't care that you know. I want to know that you care"
Author Unknown

This course reflects the College of Education's commitment to cultural diversity. The goal of the professional education program at Auburn University is to prepare outstanding educators who are competent, capable, and caring in complex, diverse educational arenas. Such individuals are

- Effective in their roles as culturally responsive teachers, designing and implementing sound meaningful and balanced instruction with the full range of learners.

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- Effective as they assist learners in their comprehension of issues surrounding diversity; and
- Effective in their contributions of thoughtful and informed discourse to their own educational communities as they work to build equitable and supportive environments learners.

Expectations

In this course you are expected to:

- Reflect critically on all experiences and readings.
- Be prompt and in attendance at all course sessions.
- Demonstrate critical reflection through discussion, writing and course assignments.
- Complete assignments to the best of your ability.
- Communicate expectations and ideas.
- Recognize and validate the values of other class members.

This class is intended to be both interactive and collaborative. Students are expected to complete all assignments in their entirety and participate in all discussions. Participation starts with preparation. It is expected that each student will read the assigned materials and completed other work requested and required. In the event that a student does not complete all assignments by the specified deadline, as evidenced by non-participation class discussions, the professor reserves the right to deduct 5 points from the final grade.

6. Course Content and Schedule:

***Please note that additional readings and material may be disseminated and covered on the dates listed below even though they may not be included here. Articles will be placed on Canvas no less than one week prior to the week that they will be discussed.**

Tentative schedule: Please keep in mind that we may have to adjust the pace of the course periodically.

Important dates:
First day of class: August 22, 2013
Midterm: October 10, 2013
AU Evaluate: December 1-8, 2013
Final Exam: Tuesday, December 10, 2013 from 7:00 pm -9:30 pm
Please note that the class meets every Thursday from 5:00pm-8:00pm CST. Students should arrive to class promptly.

Aug. 22, 2013
Week 1: Introduction to Educational Assessment

Aug. 29, 2013
Week 2: The Basic Mathematics of Measurement
Reading Reflection #1 Due

Sept. 5, 2013
Week 3: The Meaning of Test Scores
Reading Reflection #2 Due

Sept. 12, 2013 (NO CLASS MEETING TODAY)
Week 4: Reliability
Project #1 Due

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Sept. 19, 2013
Week 5: Validity
Reading Reflection #3 Due

Oct. 3, 2013
Week 6: Item Analysis
Reading Reflection #4 Due

Oct. 10, 2013
Week 7: **MIDTERM EXAM**

Oct. 17, 2013
Week 8: Developing Classroom Tests
Project #2 Due

Oct. 24, 2013
Week 9: Selected-Response and Constructed-Response Items
Reading Reflection #5 Due

Oct. 31, 2013
Week 10: Performance Assessments and Portfolios
Reading Reflection #6 Due

Nov. 7, 2013
Week 11: Grading
Project #3 Due

Nov. 14, 2013
Week 12: Standardized Achievement Tests and Aptitude Tests
Reading Reflection #7 Due

Nov. 21, 2013
Week 13: Assessment Accommodations, Bias in Assessment, and Best Practices

Nov. 28, 2013
Week 14: **THANKSGIVING (No Class)**

Dec. 5, 2013
Week 15: Review for final exam

Final Exam Dec. 10, 2013 7:00pm – 9:30pm

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7. Assignments/Projects: Course Evaluation:
The final course grade will be based on the following assignments:

		Points
A.	Project #1	35
B.	Project #2	35
C.	Project #3	25
C.	Quizzes (4 at 5 points each)	20
D.	Reading Reflections (7 at 5 points each)	35
D.	Midterm Examination	25
E.	Final Examination	25
		200

General grading rubric for assignments
100%: beyond the call of duty; strikingly impressive; excellent in every way
90%: both complete and showing evidence of original, active, critical thought
80%: all specified aspects of assignments minimally completed
<80% one or more aspects of assignments missing or unacceptable

Grading Scale:

A	90%-100%
B	80%-89%
C	70%-79%
D	60%-69%
F	<60%

A. **Project #1** (35 points)

Literature Review
Review and critique two research articles that relate to evaluation and assessment in science education. Each critique is worth 35 points and the two grades will be averages.

Please select articles from the following journals:

Journal of Research in Science Teaching
Science Education
School Science and Mathematics
International Journal of Science Education
Research in Science Education

If there is a different journal you would like to use please see me for permission and bring with you a copy of the article that you plan to critique. Please make sure to check with classmates so that you all do not have the same article.

The article should relate to current issues related to evaluation and assessment in science and/or science education. Critique should address the criteria listed below and discussed in class. Write a maximum 5 page critique (no less than 3 pages).

Format:
1. 12 point font, Times New Roman, 1" margins all around.
2. Upload a copy of the article with the critique.
3. All articles must be from *research* journals, and published after 2002.
4. Include a complete citation for the article at the bottom of the last page in APA 6th edition style.

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Criteria for grading assignments: 35 points total

The article should relate to current issues related to assessment and evaluation in science education. Please let me know if you have difficulty locating articles. Review and critique should address the criteria listed below.

1. Writing must be clear, and paper well organized, and written in APA style. (5 points)
2. Summarize the article in a brief introductory paragraph **in your own words**. (5 points)
3. Describe and critique the methodology **in your own words**. (5 points)
4. Describe and critique the presentation of the results **in your own words**. (5 points)
5. Describe and critique the analysis of the results **in your own words**. (5 points)
6. Describe and critique the implications, limitations, or other reflection provided by the authors in **your own words**. (5 points)
7. Brief presentation to class on one of the articles (5-10 minutes) with 5 slides highlighting main points. (5 points). Upload slides to Canvas also.

B. **Project #2** (35 points)

Assessment Development – You will develop a valid and reliable paper and pencil assessment of science content knowledge. You must obtain your instructor's approval before administering or evaluating any assessments in a classroom setting. The assessment could be used in the context of one of the field experiences that you may participate in. Alternatively, it could be designed for informal settings and validated with an adult population.

C. **Project #3** (25 points)

Authentic Assessment Development – You will develop a valid and reliable assessment of a science process skill. You must obtain your instructors approval before testing any new assessments in a classroom setting. The assessment could be used in the context of one of the field experiences that you will participate in. Alternatively, it could be designed for informal settings and validated with an adult population.

D. **Unannouced Quizzes:** 4 quizzes at 5 points each. 20 points total
Students will take 4 quizzes that may be short answer, fill in the blank, or essay. Quizzes will include material from class lectures, readings, and activities that have occurred during the course.

E. **Reading Reflections: 7** reflections at 5 points each. 35 points total
Directions for these reflections will be posted on Canvas at least 2 weeks prior to the due date.

F. **Midterm Examination**: (25 points) The midterm exam will include a variety of types of questions (i.e. multiple choice, short answer, fill-in-the-blank, and essay). The exam may include material from class lectures, reading, and activities that occur during the course.

G. **Final Examination:** (25 points)
The final exam will include a variety of types of questions (i.e. multiple choice, short answer, fill-in-the-blank, and essay). This comprehensive exam may include material from class lectures, reading, and activities that occur during the course.

H. **Field experience hours:**

- **To meet certification requirements, Masters students must complete the 25-30 hours of field experience associated with this course.**

- *Alternative 5th year Masters students will be required to complete 150 field experience hours prior to their internship. Failure to complete the required number of hours may result in delay of scheduled internship semester until field experience hours are completed. Each student will keep a journal with their name, day of outreach activity, brief description of activity, and signature of

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program director for field experience to be turned in at the end of the semester scheduled for the CTSE 7540 course.

- *Traditional Masters students- Please note that traditional Class A certification students will be required to complete a field project and 30 clock hours of field experience hours as a requirement for this course. More information will be provided to students who are completing the traditional masters.

8. Professionalism:

As faculty, staff, and students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College's conceptual framework. These professional commitments or dispositions are listed below:

- Engage in responsible and ethical professional practices
- Contribute to collaborative learning communities
- Demonstrate a commitment to diversity
- Model and nurture intellectual vitality

9. Class Policy Statements:

Attendance: Students are strongly encouraged to attend/participate in all class meetings unless the absence is in accordance to the AU absence policy as stated in the AU online guidelines. Please notify the professor if you are going to be absent. Students will be held responsible for any content covered in the event of an absence.

Assignments: All assignments are expected to be typewritten, grammatically accurate, and free of spelling and typographical errors. Assignments are to be of a quality that would be expected of a professional. **All assignments are to be typed, double-spaced, and in APA style (6th ed.).** If you have any questions about APA style, see https://owl.english.purdue.edu/

Late assignments will not be accepted unless accompanied by a university approved excuse.
If a student misses turning in an assignment and has a university approved excuse, he or she will have one week from the time he or she returns to class to turn in the assignment.

Make-up Policy: Arrangements to make up a missed major examination (e.g. mid-term exam, quizzes) due to properly authorized excused absences must be initiated by the student within one week of the end of the period of the excused absence (s). Except in unusual circumstances, such as the continued absence of the student or university holidays, a make-up exam will take place within two weeks of the date that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the *AU guidelines available online* will apply to university courses. All academic honesty violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Disability Accommodations: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

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Classroom Behavior and Honesty: Students are expected to read and adhere to all classroom policies in the Auburn University official guidelines available online regarding classroom behavior and honesty.

Classroom Behavior: "Behavior in the classroom that impedes teaching and learning and creates obstacles to this goal (learning) is considered disruptive and therefore subject to sanctions…Students have the responsibility of complying with behavioral standards…Examples of improper behavior in the classroom (including the virtual classroom of e-mail, chat rooms, telephony, and web activities associated with the courses) may include, but are not limited to the following: arriving after a class has begun; use of tobacco products; monopolizing discussion; persistent speaking out of turn; distractive talking including cell phone usage; audio or video recording of classroom activities or the use of electronic devices (including cell phones) without the permission of the instructor; refusal to comply with reasonable instructor directions; employing insulting language or gestures; verbal, psychological, or physical threats, harassment, and physical violence. " (See *AU guidelines available online)*

Cell phones may **not** be used during this class except in an emergency. If you need to place or accept a very important phone call, please step out into the hall. **Placing or receiving calls, text messages, instant messages, or emails during class may result in immediate dismissal from the class meeting. Laptops or tablets can only be used during note-taking time designated for class. Please refrain from having a computer open and out unless class notes are being discussed or given by the instructor for the course.** This is simply proper etiquette. It annoys and distracts your peers and your instructor, and it distracts you as well.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the *AU guidelines* will apply to university courses. All academic honest violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee. If you don't know what plagiarism is, see http://plagiarism.org/ because it will not be tolerated.

Course Contingency: If normal class activities are disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

10. Justification for Graduate Credit (for Graduate Credit Only)

This course provides doctoral students, current teachers, and pre-service teachers who desire an "A" Certificate opportunities to develop an in-depth understanding of assessment research and to develop assessment instruments for the classroom.

***For Traditional Masters students only (See instructor of course for details). An attachment will be disseminated to Traditional Masters students.**

Field Based Project/Study Areas of Choice – Any proposed project must be planned in concert with your classroom teacher and have his/her permission in writing to do so. Signature of the mentor teacher on the cover sheet of the proposal is required. Students must provide information about the topic of choice to the instructor no later than the second week of class.

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