**Evaluation of Program in Secondary Science**

**Spring 2023 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

1. **Date Syllabus Prepared**: December 2022

Term: Spring 2023

Day/Time: TBD 6:00pm – 9:00 pm

Instructor: Dr. Christine Schnittka

Office Address: 5072 Haley Center or Online. Zoom address is <https://auburn.zoom.us/j/2977898263>

Contact Information: [schnittka@auburn.edu](mailto:schnittka@auburn.edu) or (334) 844-8277

Office Hours: Online: <https://auburn.zoom.us/j/2977898263> Mondays 2pm-4pm,

Tuesdays 10am-1pm, and by appointment

**3. Texts or Major Resources**:

All resources will be on Canvas

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.

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

**5. Student Learning Outcomes:**

This course examines theoretical and practical 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:

1. 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)
2. 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)
3. 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)
4. Knowledge of the role that mathematics plays in everyday life. 290-3-3-.04(3)(c)3.(i)
5. Knowledge of the concepts and relationships in number systems 290-3-3-.04(3)(c)3.(ii)
6. 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)
7. 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)
8. Ability to solve problems using different strategies, to verify and interpret results, and to draw conclusions. 290-3-3-.04(3)(c)3.(v)
9. Ability to communicate with other about mathematical concepts, processes, and symbols. 290-3-3-.04(3)(c)3.(vi)
10. Knowledge of Alabama’s state assessment requirements and processes. 290-3-3-.04(5)(c)c(ii)
11. Knowledge of research relating collective responsibility for student learning to increased achievement for all students. 290-3-3-.04((5)(c)4(i)

# Cultural Diversity

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.
* 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: Week of January 16, 2023

Midterm exam: Week of February 27, 2023

Final Exam: TBD

Week 1: Introduction to Educational Assessment and The Basic Mathematics of Measurement

Week 2: Interpreting Scores

Week 3: Reliability and Validity

Week 4: Item Analysis

Week 5: Formative Assessment

Week 6: Item Analysis and Midterm Review

Week 7: Midterm Exam

Week 8: Spring Break

Week 9: Formative Assessment and Developing Classroom Tests

Week 10: Select Response Items

Week 11: Constructed Response Items

Week 12: Performance Assessments

Week 13: Teacher Assessments

Week 14: Best Practices in Assessment

Week 15: Final Exam Review

Week 16: Final Exam: TBD

# 7. Assignments/Projects: Course Evaluation:

The final course grade will be based on the following assignments:

Points

A. Project #1 30

B. Project #2 30

C. Project #3 30

D. Reading Reflections (8 at 5 points each) 40

E. Midterm Examination 25

F. Final Examination 25

G. Attendance and Class Participation 20

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Grading Scale:

A 90%-100%

B 80%-89%

C 70%-79%

D 60%-69%

F <60%

1. **Project #1** (30 points)

**Item Analysis** – You will analyze in detail the results of an assessment and make some decisions about test questions and how to grade students. The data will be provided to you.

1. **Project #2** (30 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.

1. **Project #3** (30 points)

**Analysis of Teaching** – You will use a variety of teaching evaluation tools to examine and analyze a lesson you observe someone else teach. You must obtain your instructor’s approval before beginning this project.

1. **Reading Reflections: 8** reflections at 5 points each. 40 points total

Directions for these reflections will be posted on Canvas at least 1 week prior to the due date.

1. **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 **first half of** the course.
2. **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 exam may include material from class lectures, reading, and activities that occur during the **second half of** the course.

1. **Participation and Attendance** (20 points)

Attending class is vital for community building and for learning. Be professional and show up on time. If you are sick or unable to attend class, please notify me in time for me to make arrangements for you to plan for your absence. Participating in class is important for community building as well as for your learning. Please pay attention in class, keep distracting things like cellphones out of sight, and contribute constructively to our discussions.

**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.

**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).

**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 [*Student Policy eHandbook*](http://www.auburn.edu/student_info/student_policies/) will apply to this class.  All academic honesty 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. Assignments **WILL** be run through a plagiarism detector. Suspected assignments may also be run through Chat GPT detectors. Do your own work. If you use someone else’s idea, cite and reference it. If you need to use someone else’s words, cite them, add a reference, and put the words in quotation marks. Plagiarism is a moral and legal minefield (Park, 2010). Using artificial intelligence to do your work is not academically honest. Plagiarism and academic dishonesty are SERIOUS issues, and all incidents will be reported to the Office of the Provost. If you are academically dishonest, I can’t help you learn. My job is to help you learn. I hope you deal seriously with academic dishonesty with your own students someday. Don’t cheat. Don’t copy. Be honest. Have integrity. Do your own work. Neither one of us wants to deal with this. (What I put above in parentheses is a citation, and below, is a reference. Get used to doing this. Google Scholar makes it easy to copy and paste the APA reference.)

Park, C. (2003). In other (people's) words: Plagiarism by university students--literature and lessons. *Assessment & evaluation in higher education*, *28*(5), 471-488.

**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.