

**AUBURN UNIVERSITY SYLLABUS**  
**Fall 2013**

1. Course Number: CTSE 4970/7970 (Secondary Science Education)  
Course Title: Special Topics in Area of Specialization for Non-Practicing Teachers  
Prerequisites: Senior Standing or Departmental Approval  
Class sessions: Variable
2. Date Syllabus Prepared: Revised edition for non-practicing teachers only, **September 2013**
3. Texts: Textbook and/or other resources (journals, research monographs, unpublished research, etc.)  
Selected as appropriate to the individual practicum topics.
4. Course Description:  
  
Provides individual students with experiences relating theory and practice in a school setting. The practicum is designed to provide teaching experience related to the area of specialization. It is designed to provide students with study and teaching opportunities that will assist them in gaining expertise/experience within a selected area of specialization. Flexibility is provided through choice of project that will provide meaningful learning in practice with regard to their current needs and future professional activities.
5. Course Objectives:  
  
The course is designed to:
  - A. Provide experience closely relating theory and practice in a school setting.
  - B. Provide choice from various and flexible learning experiences to afford the student the opportunity to achieve required or desired experience in an area of specialization.  
Students will be able to:
  - C. In collaboration with the NanoBio faculty and staff, students will develop and implement inquiry based modules (inclusive of lesson plans and accompanying assessments) in participating classrooms across the BlackBelt Region.
  - D. Write a summative reflection at the completion of each semester. The reflection will include a description of the project/study and comprehensive summary of knowledge and experience gained from the NanoBio fellowship and how this will be applicable in their professional endeavors.
  - E. Present the study/project and important learning experiences at various NSF/MSP conferences, seminars, and/or professional developments.
6. Course Content and Schedule:
  - A. The course content is developed based upon the guidelines presented to each fellow at the beginning of their appointment.
  - B. The length of time expended in the course will be dependent on the number of modules that require completion and other professional development and/or skills training required by the Evaluation or Module Development team.
  - C. The student is expected to spend a minimum of 10 hours/credit hour of documented work time for the project. Some learning experiences will require hours in the participating schools, depending upon the activity or task to be accomplished.
  - D. Schedule varies for professor and topic (Weeks 1-15)
7. Course Requirements/Evaluation:
  - A. Attend an orientation session.
  - B. Identify a project or design an assessment

- C. Prepare an annotated bibliography using the *Publication Manual of the American Psychological Association* (6<sup>th</sup> edition). (Minimum of 3 references; at least one text or book in project area; all articles must have cited literature within them).
- D. **Prepare a calendar schedule**
- E. Obtain appropriate written permission from your school and assigned teacher to implement your project. Check with your course instructor if you have any question about this.
- F. Write a proposal describing the study/project and a plan for completing and evaluating the study/project.
- G. Class will meet for a **minimum** of four (4) required times with the professor on the practicum project during the semester. Locations TBA. Other individual student meetings can be scheduled as needed.
  - 1) Orientation meeting – Set future meeting dates and overview of syllabus
  - 2) Week 3 through Week 14- Work with faculty on module development, lesson plans, assessment, proctoring, and evaluation data.
  - 6) Week 15 – Submit final reflection

#### H. Evaluation

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

Varies per course topic. However, typical assessment may also be based upon papers, examinations (written /or oral), quizzes (announced and unannounced), and presentations.

The following grading scale will be used:

90%-100%	= A
80%-89.9%	= B
70%-79.9%	= C
60%-69.9%	= D
Below 60%	= F

The professor and project manager will determine whether the student has met the criteria established jointly by professor and student and will assign a grade (A-F) Weighted components will be the following:

- 1) Annotated Bibliography (minimum of three references; at least one book) up to 10 points. Students will be designing assessments for modules so they will need to research various assessments.
  - 2) Initial Proposal on field project for Nano bio project up to 20 points
  - 3) Must attend a minimum of 5 meetings with professor and checkpoints completed up to 10 points. Meetings at 2 points credit for each meeting attended. Please note that there may be additional meetings that you are still required to attend. If you miss a meeting there is not a make up meeting for credit (unless otherwise provided at the discretion of the project manager or instructor for the course). In addition, note that some meetings may be online. There will be a Canvas section for the course.
  - 4) Final created project product(s) 50 points and final PREZI presentation of project and learning (5-10 minutes) up to 10points-total points for final project and presentation -60 points
- There will be no final exam. The final project is the final exam for the course.

Evaluation: The professor will determine whether the student has met the criteria

established jointly by members of the NanoBio team and will assign a grade A-F for the course.

**\*\*\*IF YOU DROP OR ARE DISMISSED FROM PROJECT, IT IS YOUR RESPONSIBILITY TO WITHDRAW FROM COURSE. OTHERWISE, A GRADE OF “F” WILL BE ASSIGNED.**

8. Field Based Projects Related To NanoBio– Listed below are descriptions of projects and tasks that will be implemented during your fellowship.

**A. Curriculum Development** – Based on the Nano Bio research project you will propose to develop a small area of curriculum to meet a targeted need or learning goal in the topic area of interest or specialization in the secondary classroom. Curriculum development, even on the small scale, goes through a research and development (R & D) process or cycle where new curriculum is developed based on research on best practice, tested with students in real classrooms, and then modified for greater success in the next round of testing before being packaged for widespread use. The goal in this process is both pedagogical ease of use and maximum student learning.

**B. Teaching Practice** – Based on the Nano Bio research project you will propose to implement a teaching method that can be used to help students learn in the topic area of interest or specialization in the secondary classroom. Numerous teaching methodologies exist that are supported by research in helping students learn better under specified contexts. Examples include peer tutoring, cooperative learning, and immediate feedback, to name a few. You must devise an assessment plan to determine the effectiveness of your implemented method within your teacher’s existing curriculum.

**C. Assessment Development** – Based on the Nano Bio research project you will propose to research and develop appropriate authentic assessments (formative and/or summative) that better gauge what students ‘know and can do’ in the topic area of interest or specialization in the secondary classroom. Many new, reform-based, standards-based curricula exist that need stronger means of assessing students in authentic situations. Devised assessments must meet learning goals as well as give the classroom teacher feedback on student learning before end-of-unit testing. New assessments must be ‘tested’ on students in appropriate settings at low risk in order to obtain needed data for refinement and future use.

9. Class Policy Statements

Participation: Students are expected to attend all scheduled class meetings and participate in discussions and in all facets of the project. It is the student’s responsibility to contact the instructor if assignment deadlines are not met. Students are responsible for initiating arrangements for missed meetings and late work. **Failure to submit work on scheduled due dates without prior agreed upon arrangement will result in point loss. Work that is more than one week late will not receive credit.**

Attendance/Absences: **Attendance is required at each class meeting as well as a minimum of 10 clock hours/per credit hour.** All missed field hours must be made-up as soon as possible to meet the minimum required hours for the fellowship. Other than sudden illness or family emergency, students must notify their classroom teacher and instructor in advance of any missed obligation, and make agreed upon arrangements to make up missed time. Students should do the same immediately after a sudden illness or emergency as soon as possible.

Accommodations: Students who need accommodations are asked 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 alternative time can be arranged. To set up this meeting, please contact me by e-mail. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with the Program for Students with Disabilities at 1244 Haley Center, 844-2096 (V/TT).

Honesty Code: The University Academic Honesty Code and the Tiger Cub Rules and Regulations pertaining to Cheating will apply to this class.

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. **Justification for Graduate Credit**

This course will allow individual graduate students to pursue in-depth study of advanced topics within their respective areas of specialization in a school setting. Although guided by the professor at periodic checkpoints, the course requires independent work of the student to design, develop, and produce a product for presentation and evaluation.

**MEETING DATES:**

**Instructor:** \_\_\_\_\_ **Office hours:** \_\_\_\_\_

Meeting #1: \_\_\_\_\_

Materials Due: **Print and read syllabus**

Meeting #2: \_\_\_\_\_

Materials Due:

Meeting #3: \_\_\_\_\_

Materials Due:

Meeting #4: Via email or distance learning \_\_\_\_\_

Materials Due:

Meeting #5: Via email or distance learning \_\_\_\_\_

Materials Due:

Meeting #6: \_\_\_\_\_

Please note additional meetings may be required

Materials Due:

A final project product/artifacts, analysis of results of student learning, and reflection on teacher learning are required. Propose a detailed evaluation scheme or rubric for the completed project – worth 50 points – which reflects the process: Original product/artifacts, student results, teacher reflection on learning, and suggested modification for the next cycle. *Evaluation scheme to be approved by the professor.*

### CTSE 4970/7970: Time Sheet

**Please note there may be another time sheet form in lieu of this form (see project manager for details)**

Name:

**Any time missed must be made up in order to complete your required hours.**

<b>Weeks</b> Write in the dates each week	<b>Activities/Instruction/Tasks Completed</b> <b>Describe/list activities/instruction/tasks you participated</b> <b>in this week.</b>	<b>Total Hours</b> <b>Completed</b> <b>for Week</b>	<b>Project manager</b> <b>Signature – to be signed</b> <b>each week</b>
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			
Week 8			
Week 9			
Week 10			
Week 11			

Week 12			
Week 13			
Week 14			

I verify that the student has completed the activities and assignments for this course

Project managers signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Assignments:

### References-Annotated Bibliography of different types of assessments and the most appropriate assessments for the modules due date October 14, 2013 10 points

Students will provide 5 citations on various types of assessment or another topic provided by the grant supervisors with a brief paragraph describing the relevance of each article or citation used. The article or reference used must be relevant to the topic (assessments in science) that the student selects.

### Proposal due: TBA (20points)

1. Cover Page (2 points)
  - Heading: CTSE 4970/7970 Special
  - Professor's Name
  - Title of project
  - Semester and Year
  - Student Information
    - a. Name
    - b. Address
    - c. Phone number and email address
  - Date
  - Contract sign off \_\_\_\_\_
 

(Student)
(Date)

  

(Professor)
(Date)
2. Body of Proposal (18 points)
  1. The Project and its Significance (4 points total)
 

Discuss with some detail the educational project proposed in the specific area of the proposed practicum: What will you do? What will you make? (1/2-1 page).
  2. Supporting Evidence and Rationale (8 points total)
 

(2 points) Describe preliminary planning already accomplished, observations made, problems between theory and practice (2 points), and (2 points) review of related literature which provide a rational for the proposed objectives of the practicum: (2 points) Why are you doing this project? (1-2 pages).

4. Objectives (2 points)  
(1 point) Write the specific objectives to be achieved by the proposed project. Each written objective should have measurable outcomes that will be evaluated for the outcome of the project: (1 point) What do you hope to achieve? (no more than 3 objectives)
5. Project Design (3 points)  
(1 point) Describe the operational plan for implementing the project and indicate why the plan is appropriate for achieving the stated objectives: (1 point) How will you do it? (1 point) Describe how you envision the final product (or artifacts) and its usefulness to the classroom teacher: How will it look and be useful? (1 page)
6. Resources (2 points)  
List the resources needed to complete activities and objectives and briefly explain how they are to be used. (bulleted list)
8. Evaluation (3 points)  
(1 point) Describe how you will assess or evaluate students on the outcomes of your project and the criteria for success or attainment: (1 point) How will you know if you are successful? and (1 point) attach all instruments, forms, check-sheets, questions, tests, etc. that you will use. Evaluation should measure each objective for student outcomes. (Attach)

**Final Project (50 points) and presentation (10 points). Total 60 points**

**Due last class meeting date (time TBA) Dec. 2**

Cover Page (2 points)

Heading: CTSE 4970/7970 Practicum in Secondary Science Education.

Professor's Name

Title of project

Semester and Year

Student Information

- a. Name
- b. Address
- c. Phone number and email address

Date

Contract sign off \_\_\_\_\_  
(Student) (Date)

\_\_\_\_\_  
(Professor) (Date)

1. The Project and its Significance (2 points)  
Discuss with some detail the educational project proposed in the specific area of the proposed practicum: What will you do? What will you make? (1/2-1 page).
2. Supporting Evidence and Rationale (8 points total)

(2 points) Describe preliminary planning already accomplished, observations made, problems between theory and practice (2 points), and (2 points) review of related literature which provide a rationale for the proposed objectives of the practicum: (2 points) Why are you doing this project? (1-2 pages).

3. Objectives (2 points)

(1 point) Write the specific objectives to be achieved by the proposed project. Each written objective should have measurable outcomes that will be evaluated for the outcome of the project: (1 point) What do you hope to achieve? (no more than 3 objectives)

4. Project Design (3 points)

(1 point) Describe the operational plan for implementing the project and indicate why the plan is appropriate for achieving the stated objectives: (1 point) How will you do it? (1 point) Describe how you envision the final product (or artifacts) and its usefulness to the classroom teacher: How will it look and be useful? (1 page)

5. Resources (2 points)

List the resources needed to complete activities and objectives and briefly explain how they are to be used. (bulleted list)

6. Evaluation (3 points)

(1 point) Describe how you will assess or evaluate students on the outcomes of your project and the criteria for success or attainment: (1 point) How will you know if you are successful? and (1 point) attach all instruments, forms, check-sheets, questions, tests, etc. that you will use. Evaluation should measure each objective for student outcomes. (Attach)

7. Project implementation (**30 points**). The project selected will be from the list provided above. Students are to implement the project and provide a timeline for the implementation of project. Students will describe the project and its implementation in detail. (**3-5 page maximum**). More information will be provided.

8. Presentation of project implementation. Provide a brief overview in no more than 5 slides of project implementation ( **10 points**)