

ED/Biology 331
Science Teacher Assisting Seminar

Strategies for teaching science in middle and secondary schools.

REQUIRED TEXT:

Teaching Secondary School Science: Strategies for Developing Scientific Literacy, 8th Edition
Leslie W. Trowbridge, Rodger W. Bybee, Janet Carlson Powell
Pearson Prentice Hall, Columbus, Ohio

Science Content Standards and Benchmarks – Flip Chart
Kent Intermediate School District, 2930 Knapp, Grand Rapids, MI 49525
616-365-2283

COURSE GOALS:

NOTE: The School of Education Mission Statement and Ed 331 objectives are intentionally not restated on this syllabus since this course is a required part of Ed 331 for the science majors. The science seminar supports the standards as outlined by the National Science Teachers Association (www.nsta.org). The objectives reflect the attempt to meet these standards and prepare teachers.

This seminar has been designed to accomplish the following objectives:

1. Provide meaningful classroom experiences which will enable the student to determine whether or not teaching is an area he/she should pursue.
2. Help the student make the transition from student to professional.
3. Provide experience in preparing and using "inquiry" based instruction. (Standard A, NSTA)
4. Provide a forum for discussion of various teaching methods and mutual concerns. (Standard B & E)
5. Enable the teacher assistant to prepare and teach a unit of science material to students. (Standard A)
6. Acquaint the teacher assistant with: (Standard D)
 - a) available sources of information and materials in the area of Science
 - b) laboratory ideas
 - c) pertinent periodicals in the library
 - d) the application of research findings in science education
 - e) internet sources for science teachers and the applications of technology in teaching
7. Assist the student in the construction and evaluation of: (Standard C)
 - a) unit and lesson plans
 - b) assessment strategies
 - c) teaching portfolio
8. Encourage the professional growth of the pre-service teachers.

COURSE OBJECTIVES:

Upon completion of this course, the pre-service teacher will be able to:

1. Recognize their responsibilities and growth in the transition from student to professional.
2. Apply the principles of inquiry and constructivism to design and implement a lesson that helps secondary students understand a particular concept in science.
3. Understand the strengths of reflection to improve their teaching that will in turn result in increased learning in secondary students.
4. Incorporate a variety of learning experiences that will address the diverse learners in their classroom.

COURSE REQUIREMENTS:

As pre-service teachers, you are making an important transition from student to professional. As a professional, you are responsible for your own intellectual growth and development. As a result, this course is designed in such a way as to help you work toward becoming more independent and responsible. As with all of your past classes and future professional development, what knowledge and tools you leave this seminar with is what you put into it. I have attempted to design authentic experiences that will help you develop as a teacher. Each of these activities is intended to do one of the following: (1) introduce you to an idea, (2) give you experience, (3) prepare you to interview. If you look at these activities as my way of try to help you become successful, then it will be easier to find application in your teaching. I promise that all of the things that I ask you to do over the semester is intended to be relevant to your current placement and future development. Furthermore, evaluation is largely dependent on your ability to develop into a professional. To that end, the following areas will be evaluated to determine if you are progressing toward that goal.

GRADING POLICY:

You will receive one grade for your teacher assisting experience (ED 331). Your grade in ED 331 will be determined by combining the grade from this seminar with those of your supervising teacher and the seminar professor from education; each will contribute a third of your grade. The grade you will receive from me will be based upon the following:

Evaluation Method	Total Points	% of Grade
Classroom Observations and Self-Analysis	50	50%
Capstone Essay	9	9%
Teaching Demonstration	5	5%
Teaching Philosophy, Application Letter	6	6%
Unit Plan	20	20%
Attendance & Participation	10	10%
Total Points	100	100%

The grading scale for this seminar is:

Grading Scale			
A	4.0	93-100%	93-100 pts
A -	3.7	90-92%	90-92 pts
B+	3.3	87-89%	87-89 pts
B	3.0	83-86%	83-86 pts
B-	2.7	80-82%	80-82 pts
C+	2.3	77-79%	77-79 pts
C	2.0	73-76%	73-76 pts
C-	1.7	70-72%	70-73 pts
D+	1.3	63-69%	63-69 pts
D	1.0	60-62%	60-62 pts
F	0.0	59% or less	59 pts or less

NOTE: A passing grade does not automatically mean a positive recommendation will be made for permission to do student teaching.

OAS Statement:

If there is any student in this class who has special needs because of learning or physical disabilities, please contact the Disabilities Support Services (DSS) , at 895-2490.

Tentative Semester Schedule of Topics

Date	Topic/Activity	Assignment to be given
30-Aug	Pre-evaluations Introductions, Expectations, Overview, Kaboom!! Workshop	1, 2, 3, 4, 5, 8, 16, 22
6-Sep	No Class - Labor Day	
13-Sep	How am I supposed to teach? - Natural Selection Activity What is my teaching philosophy? The learning cycle and constructivist learning theories	6, 18, 7, 10
20-Sep	How do I know what to teach? Scientific Literacy, National and State Standards How do I know I am teaching what I want to teach? - objectives, applying the 5 E model	9
27-Sep	Student led discussion - 4 weeks down, and so far I have learned... Joint Seminar with Student Teachers	13, 14, 16
11-Oct	How good is my lesson plan? Peer- evaluation Student led discussion - Peer and supervisor observations of teaching should...	11 & 12
18-Oct	How do I know if my students have learned anything? Assessment What should I worry about with laboratory Activities? - Safety in the classroom	15
25-Oct	How do I address the diverse learning styles in my classroom? Learning styles, gender, and ethnicity Student led discussion - If I had known it was going to be like this I would have...	17
1-Nov	Isn't teaching more than one lesson or a unit? Designing science curriculum How did I get here and am I well prepared? Capstone essay discussion	19, 21
8-Nov	What do I have to do to get a job? Meet with employed students	20
15-Nov	Student led discussion - how can I get a job? TBA	
22-Nov	Where do I go from here? Professional development/No Child Left Behind Student led discussion - I am most concerned about my ability to...	
29-Nov	Activity 24-4; 24-5;24-6 Student led discussion - How do I?	
6-Dec	Individual meetings with students	23

Assignments and Due Dates

Assignment	Due Date	Description
1	7-Sep	Teaching Schedule Form on BlackBoard - Fill out and return to me via email
2	13-Sep	Read Chapters 1 & 2
3	13-Sep	Do Activities 2-1, 2-2, 2-3
4	13-Sep	Introductory Assignment
5	13-Sep	Work with supervising teacher to find a day and topic for your first lesson
6	20-Sep	Rough draft of your teaching philosophy
7	20-Sep	Read Chapters 5 & 6
8	20-Sept - 8-Nov	Individual Demonstrations - signup sheet first week of classes
9	27-Sep	Create a lesson plan for your first lesson using the 5 E model. Identify your objectives, the Michigan Standards and Benchmarks that you will be addressing
10	27-Sept - 1-Nov	First Observation - make arrangements with Dr. Burton
11	11-Oct	Read Chapter 16
12	11-Oct	Provide a brief (1 page) overview of the topics that your unit will cover. Include the Michigan Standards that you will be addressing
13	18-Oct	Read Chapter 18
14	18-Oct	Describe the types of assessment tools you would like to use during your unit and what concepts you would to measure with these tools.
15	25-Oct	Read Chapters 19 and 20 - be prepared to discuss in class
16	25-Oct-29-Nov	Second Observation - make arrangements with Dr. Burton
17	1-Nov	Read Chapters 7-9 - Be prepared to discuss in class
18	8-Nov	Final Draft of teaching philosophy
19	8-Nov	Detailed outline of capstone essay
20	15-Nov	Activity 24-2 - Write a letter of application for your "ideal" position.
21	22-Nov	Final capstone essay
22	29-Nov	Unit plan due
23	6-Dec	Post-evaluations / Course evaluations / Individual meetings