



BROWARD COLLEGE COURSE OUTLINE

LAST REVIEW: 2008-09 NEXT REVIEW: 2013-14 STATUS: A

COMMON COURSE NUMBER: MAE 3143

CREDIT HOURS: 3

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:

(Voc. Course ONLY)

Lecture:

Lab:

Clinic:

Other: **40**

PREREQUISITE(S): MAE 4320

COREQUISITE(S):

PRE/COREQUISITE(S): MAE 3941

COURSE DESCRIPTION *(750 characters, maximum):* This course is designed to provide the student with the opportunity to apply learned concepts by observing and teaching small groups and whole class lessons in the mathematics classroom. Extensive Writing Component in the form of a journal is required. Forty hours (40) of structured school-based hours is required.

UNITS

- 1. Observations and Research**
- 2. Direct Instruction**

EVALUATION:

Please provide a brief description (250 characters maximum) that details how students will be assessed on the course outcomes.

Students enrolled in MAE 3148 will be required to complete the following:

- A. Reflection Log
The candidate is required to complete 10 entries in his or her reflection log.
- B. Teach a Lesson
Teach 4 **Whole** Class Lessons in a middle or high school mathematics setting
- C. Write a Paper
Compare and contrast what it is like to work in a group as oppose to as an individual? Reflect upon the implementation of group work, its success, and learning achievement. Reference at least one article.

The final grade will be based on the course requirements suggested below. The graded activities may reflect either alternative or traditional assessments. Grading activities and their relative weights are as follows.

Suggested Format:

Reflection Journal Entries	500
Teach Lesson 1	100
Teach Lesson 2	100
Teach Lesson 3	100
Teach Lesson 4	100
Research Assignment	<u>100</u>
	1000

Suggested Grading Scale:

930 - 1000	A
850 - 929	B
780 - 849	C
700 - 779	D
0 - 699	F

**** Complete the following only if course is seeking general education status ****

GENERAL EDUCATION Competencies and Skills *:

Please highlight in **green** font all Competencies/Skills from the list below that apply to this course. In the box to the right of the Competency/Skill, enter all specific learning outcome numbers (i.e. 1.1, 2.7, 5.12) that apply.

1. Read with critical comprehension	N/A
2. Speak and listen effectively	N/A
3. Write clearly and coherently	N/A
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	N/A
5. Demonstrate and apply literacy in its various forms: (highlight in green ALL that apply) (1. technological, 2. informational, 3. mathematical, 4. scientific, 5. cultural, 6. historical, 7. aesthetic and/or 8. environmental)	N/A
6. Apply problem solving techniques to real-world experiences	N/A
7. Apply methods of scientific inquiry	N/A
8. Demonstrate an understanding of the physical and biological environment and how it is impacted by human beings	N/A
9. Demonstrate an understanding of and appreciation for human diversities and commonalities	N/A
10. Collaborate with others to achieve common goals.	N/A
11. Research, synthesize and produce original work	N/A
12. Practice ethical behavior	N/A
13. Demonstrate self-direction and self motivation	N/A
14. Assume responsibility for and understand the impact of personal behaviors on self and society	N/A
15. Contribute to the welfare of the community	N/A

**General Education Competencies and Skills endorsed by '05-'06 General Education Task Force*

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Unit 1. Observations and Investigations

General Outcome

- 1.0 The student shall spend 25 hours of observing, investigating, and tutoring individuals and small groups based on the Florida Educators Accomplished Practices (FEAPs) in a school setting.

Specific Measurable Learning Outcomes:

Upon Successful completion of this unit, the student shall be able to:

- 1.1 Assessment: Observe a class where the students are being assessed. Complete the observation rubric associated with this topic. [Develop a math quiz, etc](#)
- 1.2 Communication: Observe a class and provide reasons as to why you believe it is student-centered or teacher-centered. Complete the observation rubric associated with this topic.
- 1.3 Continuous Improvement: Interview a teacher about their continued improvement in education. Complete interview rubric associated with this topic.
- 1.4 Critical Thinking: Observe a higher level math course; that is, statistics, trigonometry or calculus. Decide whether the students have been asked to think critically during any part of the lesson. Specify which part. Complete the observation rubric associate with this topic.
- 1.4 Critical Thinking: Interview other educators in their assigned school. Find out if there is any team teaching going on and whether any thematic units have been developed in the area of mathematics.
- 1.4 Critical Thinking: Observe a class and reflect upon whether multiple representations of lessons are being used.
- 1.5 Diversity: Observe a class and reflect upon the types of cultures in the mathematics classroom. Complete the observation rubric associated with this topic.
- 1.6 Ethics: Discuss with your assigned teacher the each component of the FEAPs and the Code of Ethics.
- 1.7 Human Development and Learning: Observe a class and reflect upon the different ability levels of the students in the classroom.
- 1.8 Knowledge of Subject Matter: Observe a higher level math course; that is, statistics, trigonometry or calculus. Decide whether the students have been asked to think critically during any part of the lesson. Specify which part. Complete the observation rubric associate with this topic.

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- 1.9 Learning Environment: Research on the topic of group dynamics in the classroom. Compare and contrast what it is like to work in a group as oppose to as an individual.
- 1.9 Learning Environment: Interview a teacher and reflect upon the learning environment and general behavior of the students.
- 1.10 Planning: Complete a lesson plan using Sunshine State Standards appropriate for the grade level.. Complete the investigation rubric associated with this topic.
- 1.11 Role of the Teacher: Observe an Open House, Department Meeting or School Meeting. Complete the observation rubric associated with this topic.
- 1.12 Technology: Observe a class and reflect upon whether technology is being used as a tool for learning. Complete the observation rubric associated with this topic.

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Unit 2. Instruction

General Outcome

2.0 The student shall spend 15 hours of teaching in a school setting;

Specific Measurable Learning Outcomes:

Upon Successful completion of this unit, the student shall be able to:

2.1 Teach a lesson without multiple representations

2.2 Teach a lesson with multiple representations. Reflect upon the learning gains of each lesson delivery. Compare and contrast the two teaching events.

2.3 Teach a lesson without hands-on mathematics.

2.4 Teach a lesson with hands-on mathematics. Reflect upon the learning gains of each lesson delivery. Compare and contrast the two teaching events.

Supplement:

Here are some of the skills listed in the “Competencies and Skills Required for Teacher Certification in Florida, 12th Edition” that are met by some of our units and subunits. Our course outlines exceed these minimum competencies and skills.

Next to the given unit or subunit, if there is a number (e.g., MG 1.1), please refer to the list below to see the competency that it complies with. (Note: “(E)” means that the given unit or subunit exceeds the minimum competencies and skills.)

Middle Grades 5-9 (MG):

- 2.2 Interpret results as illustrated by the use of mathematical representations.
- 2.3 Select appropriate manipulatives, mathematical models, or technology for teaching particular mathematics concepts.

Mathematics 6-12 (M):

- 11.1 Identify statements that correctly communicate mathematical definitions or concepts.
- 11.2 Interpret written presentations of mathematics.
- 11.3 Select or interpret appropriate concrete examples, pictorial illustrations, and symbolic representations in developing mathematical concepts.
- 14.1 Select appropriate resources for a classroom activity
- 14.2 Identify methods and strategies for teaching problem-solving skills and applications.
- 15.1 Identify students’ errors, including multiple errors that result in correct or incorrect answers.
- 15.2 Identify appropriate alternative methods of assessment.