SEU 323: Methods of Teaching Secondary School Mathematics

I. Three semester hours; three clock hours; required of all Secondary Education Mathematics majors.

II. Catalog Description

SEU 323: Methods of Teaching Secondary School Mathematics 3 s.h., 3 c.h.

Methods, techniques and evaluative instruments applicable to the teaching of secondary school mathematics. Each student is expected to observe several mathematics classes in action, participate as teacher in a simulated classroom situation, tutor at least one mathematics student, prepare teaching plans and participate in classroom discussions of the above activities as well as the variety of readings that are assigned.

III. Course Objectives:

The student will be able to:

A. plan effective daily lessons in teaching the various branches of secondary mathematics.

B. plan longer units for teaching secondary mathematics.

C. use correct mathematical terminology and correct pronunciation.

D. explain topics in mathematics clearly and concisely.

E. select intelligently and use wisely a variety of appropriate method in the classroom, including lecture, laboratory method, individualized instruction and AV materials.

F. lead the student through a logical development of mathematics so that his/her performance in the subject is based upon his understanding and not just upon memorization of a sequence of steps.

G. think through mathematics as the student does. While teaching he/she should be able to temporarily make his/her student’s perspective his/her own.

H. inspire students to appreciate the place of mathematics in today’s world and its beauty and usefulness as well as its limitations.

I. become a lifelong learner.
IV. Course Outline (General Topics Covered):

A. What is mathematics? What are the logical structures underlying elementary mathematics?

B. The psychology of learning mathematics.

C. The goals and objectives in teaching mathematics

D. Homework.

E. Selection and use of mathematics textbooks.

F. Selection and use of other materials including games, puzzles, and programmed instruction.

G. Testing in mathematics.

H. Construction of a mathematics unit.

I. How to help the slow learner in mathematics.

J. An independent project of the student's choosing aimed at his/her individual goals.

K. Teacher as Lifelong Learner.

V. Course Procedures:

Early in the semester a series of mini-lessons is conducted. Each student "teaches" a lesson to a group of his/her fellow students on the secondary level. The fellow students, in turn, put themselves in the place of high school students - ask questions, make mistakes, and occasionally create a discipline problem.

Most of the topics listed above are discussed as an outgrowth of these mini-lessons. In this way there is some "live" action to refer to as well as the readings. These topics that are missed or slighted are scheduled for discussion during class periods later in the semester.

VI. Instructional Resources


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The *NCTM Yearbooks, Mathematics Teacher* and *Arithmetic Teacher* and the *Addenda Series to the Standards* may also be used as references.