

# Northern Marianas College

## CURRICULUM ACTION REQUEST

**Effective Semester / Session:** Spring 2012

**Type of Action:**

- New
- Modification
- Move to Inactive (Stop Out)
- Cancellation

**Course Alpha and Number:** MA 192

**Course Title:** Mathematics/Science Tutoring

**Reason for initiating, revising, or canceling:**

This course guide is being modified to reflect changes in the recommended text book and calculator to read, "TI-83 or higher". Under 3d, Catalogue Course Description, and number 4, delete the words "and a score of 55 or above on the Listening and Speaking portion of the NMC English Placement test."

---

Mr. Eric Johnson

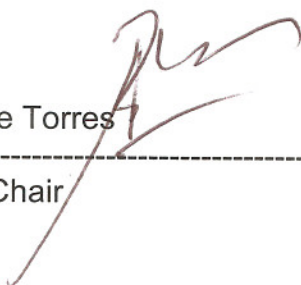


2-10-2012

Proposer

Date

Dr. Alfredo De Torres

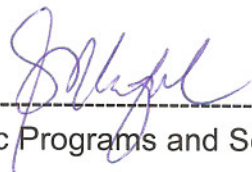


2-10-12

Department Chair

Date

Barbara Merfalen



3.6.12

Dean of Academic Programs and Services

Date

# Northern Marianas College

## Course Guide

Course: MA 192 Mathematics/Science Tutoring

### 1. Department

Sciences, Mathematics, Health and Athletics

### 2. Purpose

The purpose of this course is to train students who have a demonstrated capacity in effectively applying the scientific principal, and who are competently skilled in mathematics, the techniques for assisting other students who have difficulty with math and/or science, and to develop a proficiency in teaching and tutoring methods that directly address math/science anxiety, phobias, fears, and negative attitudes toward math and/or science. The need for this course is demonstrated by student demand for experienced and competent tutors.

### 3. Description

#### A. Required/Recommended Textbook(s) and Related Materials

Recommended:

Tobias, Sheila, *Overcoming Math Anxiety*. Boston, MA: Houghton Mifflin Company, 1978.

Readability level: Grade 10.6

Required calculator: TI-83 or higher graphing calculator.

#### B. Contact Hours

1. **Lecture:** 15 hours per semester

2. **Lab:** 30 hours per semester

3. **Other:**

#### C. Credits

1. **Number:** 3

2. **Type:** Regular degree units

#### D. Catalogue Course Description

This course provides students with training in one-on-one and small group tutoring. The primary students seeking mathematics tutoring will be enrollees in MA 087 Fundamentals of Mathematics, MA 089 Pre-Algebra, MA 091 Beginning Algebra, and MA 132 Intermediate Algebra. Strategies of applying the scientific method will also be explored.

Required fieldwork consists of tutoring service in the community and/or at the College. Prerequisites: EN 101 and the successful completion of

# Northern Marianas College

## Course Guide

Course: MA 192 Mathematics/Science Tutoring

one science course with an "A" grade and MA 161 with an "A" grade and the consent of instructor is required. English Placement Level: EN 202.

### E. Degree or Certificate Requirements Met by Course

None

### F. Course Activities and Design

Course activities include lecture, discussions, instructor observations and consultation, and weekly scheduled tutoring labs.

### 4. Course Prerequisite(s); Concurrent Course Enrollment; Required English/Mathematics Placement Level(s)

Prerequisites: EN 101 and successful completion of MA 161 with an "A" grade and one science course with an "A" grade and consent of instructor. English Placement Level: EN 202

### 5. Estimated Cost of Course; Instructional Resources Needed

Cost to the Student: Tuition for a 3-credit course and cost of a TI-83 or higher graphics calculator.

Cost to the College: Instructor's salary based on number of credits: (i.e., 1 – 5 students equals 1 credit. 6 – 12 students equals 2 credits.) Enrollment cap at 12 students.

Instructional resources needed for this course include access to math textbooks and alternate graphing calculators.

### 6. Method of Evaluation

This course will use the Pass (P)/No Pass (NP) grading system.

NMC's grading and attendance policies will be followed.

# Northern Marianas College

## Course Guide

Course: MA 192 Mathematics/Science Tutoring

### 7. Course Outline

This is a topical outline and does not necessarily indicate the sequence in which the material will be presented.

#### 1.0 Learning Styles

- 1.1 Individual abilities
- 1.2 Multicultural factors

#### 2.0 Teaching/Tutoring Strategies

- 2.1 Sequential learning patterns
- 2.2 The myth of the “wrong” answer
- 2.3 Math as a language
- 2.4 Practicing patience
- 2.5 The confinement of exact answers
- 2.6 Finding alternate examples

#### 3.0 The Psychology of Learning

- 3.1 The nature of math anxiety
- 3.2 The psychology of math avoidance
- 3.3 The “I hate math” syndrome
- 3.4 The fear of being too dumb or too stupid
- 3.5 Distrust of intuition
- 3.6 Self-defeating self-talk

#### 4.0 The Scientific Method

### 8. Instructional Goals

This course will introduce students to:

- 1.0 A variety of student learning styles;
- 2.0 Differing types of teaching strategies;
- 3.0 Multicultural aspects of teaching and learning;
- 4.0 Techniques of overcoming math anxiety;
- 5.0 Teaching math as a language;
- 6.0 Sequencing the Scientific Method;
- 7.0 The acquisition and use of adequate explanations and examples;

# Northern Marianas College

## Course Guide

Course: MA 192 Mathematics/Science Tutoring

8.0 Practical techniques of handling negative attitudes; and

9.0 The practice of patience in one-on-one sessions.

### 9. Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1.0 Integrate a variety of teaching techniques that address the different student learning styles;

2.0 Practice and apply the different types of teaching strategies;

3.0 Identify the multicultural aspects of teaching and learning;

4.0 Employ techniques for overcoming math anxiety;

5.0 Teach math as a language;

6.0 Illustrate the proper sequencing and application of the Scientific Method;

7.0 Acquire and use adequate explanations and examples;

8.0 Use practical techniques when handling negative attitudes; and

9.0 Practice patience during one-on-one sessions.

### 10. Assessment Measures

Assessment of student learning may include, but not be limited to, the following:

1.0 Completing the minimum number of hours tutoring;

2.0 A student journal with observations addressing tutoring difficulties/issues;

3.0 The instructor's evaluation of student's tutoring techniques;

4.0 Student evaluation of service provided by tutor; and

5.0 Attendance and participation in weekly lecture/discussion sessions.