Northern Marianas College  
CURRICULUM ACTION REQUEST

Effective Semester / Session: Spring 2012

Type of Action:
- [ ] New
- [x] 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  
Proposer  
2-10-2012

Dr. Alfredo De Torres  
Department Chair  
2-10-12

Barbara Merfalen  
Dean of Academic Programs and Services  
2-6-12
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
      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-
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
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.
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**

7. **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;
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.