New Course Proposal

1. Catalog description
   a) Course Number: 5810
   b) Title: Topics in Mathematics for Elementary/Middle School Teachers
   c) Meeting times and credit: (Arr.-Arr.-.1 to 4)
   d) Term(s) to be offered: SU
   e) Short title: El/MS Mat Topics
   f) Course Description: Topics in mathematics useful in the elementary and/or middle level classroom. Topics include, but are not limited to, algebra, number theory, geometry, graph theory, probability and statistics. This course may be repeated for credit. A maximum of 6 semester hours credit may be counted toward a degree program.
   g) Prerequisite(s): Experience teaching elementary or middle level grades. Graduate standing at the university.
   h) Initial term offered: Summer 2004

2. Objectives and Evaluation of the Course
   a) Objectives: This course will allow graduate students in the program to experience advanced mathematical ideas and topics in a way appropriate to the elementary/middle level discipline; Students will understand how advanced mathematical ideas can be used to better understand and better teach in the existing mathematics curriculum.
   b) Methods of assessment: Exams, Presentations, and Projects
   c) Course will be offered in a traditional format
   d) Not numbered 4750-4999
   e) Not designated as writing-active, writing-intensive, or writing-centered

3. Outline of the Course
   a) Course outline will vary according to the topic being taught. A sample outline for the topic Number Theory is given:
      Direct Instruction and Activities (85% of course time)
      Problem solving, Proof, Fibonacci numbers, Divisibility theory, Diophantine equations, Congruence and Modular Arithmetic Applications, Cryptology, Number bases
      Assessments (15% of course time)
      Exams, Projects, Presentation of problem solutions
   b) Course will be offered in a traditional format.
4. Rationale
a) This course is intended to provide the Department of Mathematics and Computer Science with the flexibility to offer graduate level courses to graduate students who are elementary and middle level teachers. Such courses will increase their mathematical knowledge and ability. Furthermore, this course will also be aligned with state and national standards as directed by the IBHE.
b) The 5810 level reflects the nature of the course and level of the student.
c) This course will not be similar to any existing university course.
d) This course will comprise no more than 6 semester hours of the Master’s in Mathematics Education – Elementary/Middle Level Mathematics option.

5. Implementation
a) This course may be initially assigned to: Marshall Lassak, Allen Davis, Joyce Bishop, Joan Henn, Andy White, and Cheryl Hawker.
b) No additional costs.
c) Textbooks will vary with the topics being taught. Each section will have as one of the required texts: NCTM Principles and Standards (2000)

6. Community College Transfer
A community college course may not be judged equivalent to this course.

7. Date approved by the department or school ___March 31, 2003__________

8. Date approved by the college curriculum committee ___May 2, 2003_____

9. Date approved by CGS __________