

July 18, 2013

1. College: **Science and Mathematics**
2. Department: **Mathematics and Statistics**
3. Course status: **existing; does not require modification**
4. Course prefix and number: **MT 127**
5. Course title: **Introduction to the Foundations of Mathematics I**
6. Course catalog description: **Elementary concepts of sets and logic, numeration systems, number theory and properties of the natural numbers, integers, rational and real number systems with an emphasis on problem solving and critical thinking.**
7. Number of semester credit hours: **3**
8. Estimated total course enrollment per year: **300**
9. Course prerequisites and/or required qualifications for enrolling in the class: **a minimum math score of 230 on THEA, 19 on ACT, 500 on SAT or a C or higher in MTH 099**
10. Course **is not/will not be** available online.
11. Foundational Component Area: **Mathematics**
12. Explain why this course fits into this foundation component area: **Students will acquire a foundation in numeration systems, number theory and properties of the natural numbers, integers, rational, and the real number system. Students will learn to apply the conceptual structure of set theory and logic. Students will acquire problem solving skills and gain experience in critical thinking.**
13. Core Objectives
 - Critical Thinking - Students will be instructed on using the techniques of problem solving and estimation skills and how these skills relate to sets and logic, whole numbers and numeration, number theory, the integers that the real number system. Students will apply critical thinking skills by reading and completing problem sets in which they number systems and operations. In the course requirements (assignments: homework and exams), students will use creative and innovative thinking (critical thinking) as they sort through an arsenal of mathematical tools to see which tool is most appropriate to solve a given problem.
 - Communication Skills - Students will be instructed as to how mathematical information should be communicated to be sure that the meaning is clear. This instruction will include how to use complete and correct notation, how to visually organize sequential mathematical information and how to provide supporting justification for conclusions. In the course requirements (assignments: homework and exams), the students will demonstrate written and visual communication skills by constructing tables, graphs and sequential arguments to support conclusions.
 - Empirical and Quantitative Skills - Students will be instructed on using empirical and quantitative skills to draw conclusions about numbers and operations based on models of arithmetic. Students will also learn about how and why algorithms work. In the course requirements (assignments: homework and exams), the students will practice and apply empirical and quantitative skills to manipulate and analyze numbers and operations.

Contact person for questions about this submission:

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