

Cornerstone Designation Proposal Form

(Revised 03/13/08)

Educational Policy and Curriculum Committee

1. Department: Mathematics
2. Course Number and Title: Math 190LA: Introduction to Mathematical Research through Graph Theory
3. What Cornerstone designation(s) are you requesting? 2B

4. Course Description:

This course will research several topics in graph theory, including applications to channel assignments for radio stations and an analysis of the game Instant Insanity. The class will learn the basics of each topic and then formulate and attempt to answer questions about the topic. The class will also talk about how mathematics, and graph theory in particular, can relate to other fields of study like biology, chemistry, computer science, and sociology. Students will learn to write and typeset mathematics. Emphasis will also be placed on oral communication. Prerequisite: Math ACT of 24 or higher.

5. Cornerstone description(s):

Students completing the scientific perspective will demonstrate an increased awareness and better understanding of the natural world and the impact of science and technology on society. They will learn to apply scientific methodology and mathematical analysis through first-hand experience and demonstrate an ability to understand, evaluate, and question scientific statements.

6. Rationale for designating this course a Cornerstone:

Students completing the scientific perspective will demonstrate an increased awareness and better understanding of the natural world and the impact of science and technology on society. We will use graph theory to model several real world situations including channel assignments for radio stations. Mathematical modeling is a vital tool for solving real world problems and understanding real world situations. The students will also complete poster presentations on how graph theory can be related to fields outside of mathematics. **They will learn to apply scientific methodology and mathematical analysis through first-hand experience and demonstrate an ability to understand, evaluate, and question scientific statements.** This course will serve as an introduction to research. The students will be given a small amount of background about a topic and then they will ask and attempt to answer questions about the topic. We will look at numerous examples to try to find patterns and then try to determine if the patterns will always hold. The students will be required to communicate their understanding and discoveries in both written and oral formats.

7. What affect will designating this course as a Cornerstone have on the Department, teaching load, frequency of offering? None. This course is scheduled to be taught as an LAS in the fall of 2009.

Approved By:

_____ Signature of Department Chair or Program Director/Chair	_____ Date
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REVIEWED BY:

_____ Signature of Division Chair Comments:	_____ Date
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_____ Signature of Academic Dean Comments:	_____ Date
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_____ Signature of Cornerstone Director Comments:	_____ Date
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