M 397S BEGINNING SEMINAR IN GEOMETRY/TOPOLOGY

CURVES AND SURFACES

Unique # 56620

TU-TH 2:00-3:15 Room RLM 9.160

Professor Karen Uhlenbeck

Text: Lecture notes by Chuu-Lian Terng
(available from her web site math.uci.edu/~cterng/ Lecture Notes for 162A(curves and surfaces), Winter 2005)

This course will be in seminar format. The first few presentations will be made by Professor Uhlenbeck, and the subsequent presentations will be made by students. Students will have some flexibility in choosing the days each will present and the material each will cover. There are exercises in the lecture notes whose solutions will be discussed in class. There is a strict limit on class size, due to the size of the room and to the number of presentations each student is to make.

Curves and Surfaces is a classical subject in mathematics, which is an excellent review of more advanced topics in calculus, as well as preparation for more advanced and active research subjects such as differential geometry and general relativity.

The seminar format is not very commonly used at the graduate and undergraduate levels, but is an invaluable experience for students. Research mathematicians use this format a great deal. Members of the seminar present every few weeks, but it is more or less necessary for members of the seminar to follow the lectures in order to be prepared for their own presentation. Ideally there is a lot of discussion and interaction between students and between the students and professor. As a result, less material is covered than in a lecture course, but students understand more of the material, and gain invaluable experience in making presentations and reading material on their own.

Previous seminars organized by Professor Uhlenbeck have been undergraduate seminars in mathematical biology, and seminars on Morse theory and Lie algebras for beginning graduate students. This seminar is intended for advanced undergraduates and is open to beginning graduate students, space permitting.

Students who wish to take the seminar can speak to Professor Uhlenbeck 10/22 or 10/25 from 2-3 in 9.160. She may also be contacted at uhlen@math.utexas.edu.