SYLLABUS: MATH 785

Transcendental Number Theory

12:30 p.m. - 1:45 p.m. on TTh

Instructor: Michael Filaseta

Office: 301 LeConte

Email: filaseta@mailbox.sc.edu (encouraged to use)

Office Phone Number: non-existent

Office Hours: 9:15-10:15 a.m. on TTh, 10:00-11:00 a.m. on W, and by appointment

Text Book: None (see notes on web page below)

Web Page for Course:

`http://www.math.sc.edu/~filaseta/gradcourses/Math785/main785.html`

Grading: Homework (50%), 1 Test (20%), Cumulative Final (30%)

Grading Scale: A 10% grading scale will be used so that a total grade based on the above weighting of homework and exams of at least $(100-10k)\%$ will ensure that the student obtains a grade corresponding to at least the kth letter of the alphabet for $k \in \{1,2,3,4\}$. A grade of $< 60\%$ will be viewed as failing with a letter grade of an "F".

Date & Time of Final Exam: Wednesday, May 4, 2:00 p.m. - 5:00 p.m.
(No exceptions can be made to the scheduled time.)

Note: The last day to drop the class without a WF being recorded is Monday, February 28.

Cell Phone Policy: Please remember to turn off your cell phone prior to class.

Attendance Policy: It is not intended that you take advantage of the fact that class notes are available and miss lectures. You are expected to attend each lecture. You will be considered absent if you miss more than ten minutes of a lecture. If you are absent for more than four lectures, your letter grade at the end of the course will be one-half of a letter grade lower than the grade determined from the homework, test, and final exam. If you are absent for more than eight lectures, you should withdraw from the course; if you do not, your letter grade at the end of the course will be one full letter grade lower than the grade determined from the homework, test, and final exam.

Homework Policy: Homework assignments must be turned in on time. Late homework will not be accepted. Although you are encouraged to work on homework together, you are to write up your homework solutions independently and without the aid of other people's written solutions to the problems.

Learning Outcomes: This course, like other courses at a serious university, will help students determine whether they are able or truly want to pursue a career that involves the topics covered. With this in mind, there are three possibilities:

(i) Students will become familiar with classical proofs associated with the irrationality and transcendence of numbers, including classical theorems of Lindemann, Gelfond and Schneider, uniform distribution theory and Weyl's theorem, and results of Mahler and Tijdeman. They will master concepts and be able to solve problems associated with these topics.

(ii) Students will discover that they cannot or do not want to master these concepts.

(iii) Some combination of (i) and (ii).