COURSE SYLLABUS

I. Locator Information

Semester: Spring __X__ Fall ___ Summer

Math 641 Complex Analysis II  
3 Credit Hrs.

6:30 - 7:50 - TR  
SBE 109

Dr. Guanghua Zhao, SBE 347 - Office Phone - 672-1500

Email and Web: gzhao@uncfsu.edu, http://faculty.uncfsu.edu/gzhao

Office Hours: MWF 12:20 – 1:00, TR 3:30 – 6:30, other by appointment

Department Office Location:  SBE 338

Department Office Telephone:  672-1294

II. Textbooks


III. Course Description

The second course of a two-semester sequence in complex analysis, including metric spaces and the topology in C, elementary properties and examples of analytic function, complex integration, singularities, the maximum modulus theorem, compactness and convergence in the space of analytic functions. **Prerequisite: Math 541 or consent of the department.**

IV. Course Objectives

The main objective of this course is to develop in a rigorous and self-contained manner those parts of theory which are prominent in the applications of the subject. These topics will enable the students to take further courses in complex analysis.
V. Course Competencies

Demonstrate a thorough mastery of algebraic properties of the complex numbers including the polar representative of complex numbers (DPI 5.3). Know the symbolism of mathematical logic (DPI 8.1). Demonstrate a thorough knowledge of the concepts of equivalence and implication (DPI 8.2). Negate a logical statement that employs quantifiers (DPI 8.3). Possess a thorough knowledge of the role of proof in the study and development of mathematics (DPI 8.5). Create original proofs in the various branches of mathematics including direct proofs, indirect proofs, and proofs using mathematical induction (DPI 8.6). Know the relationship between the logical operations and the set of theoretic operations (DPI 9.2). Demonstrate a thorough knowledge of the concept of a set theoretic relation (DPI 9.3).

VI. Course Requirements

1. The student is expected to pre-study each lesson in advance.

2. It is the responsibility of the student to avail himself/herself to all class meetings, and individual help from the instructor.

3. The student is expected to complete all assignments and to spend adequate time on class work to insure that the course outcomes are met.

4. The student is encouraged to ask questions when it is necessary for a clear understanding and to meet with the instructor when additional assistance is needed.

5. The student is expected to enter the classroom on time and remain until the class ends.

VII. Evaluation Criteria/Grading Scale

<table>
<thead>
<tr>
<th>Homework</th>
<th>40%</th>
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<tbody>
<tr>
<td>Midterm</td>
<td>30%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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A = 90-100  B = 80-89  C = 70-79  F = Below 70

VIII. Course Outline with Assignment Schedule

<table>
<thead>
<tr>
<th>Section</th>
<th>Topic</th>
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<tbody>
<tr>
<td>43</td>
<td>Sequence and Series</td>
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<tr>
<td>44</td>
<td>Taylor Series</td>
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<tr>
<td>45</td>
<td>Examples</td>
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<td>46</td>
<td>Laurent Series</td>
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<tr>
<td>47</td>
<td>Examples</td>
</tr>
<tr>
<td>48</td>
<td>Absolute and Uniform Convergence of Power Series</td>
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IX. Teaching Strategies
Lecture, problem discussion, and student presentations.

X. Bibliography


