TEXAS A&M UNIVERSITY-Corpus Christi
Division of Computing and Mathematical Sciences

MATH 5394 - Research Methods in Mathematics

Spring 2005

I. COURSE INFORMATION
   Instructor:
   Dr. Alex Sadovski, Professor of Mathematics, CI #338
   Phone: 825-2477 (office)
   Email: sadovski@falcon.tamucc.edu

   Classes meet: MATH 5394  Friday 12-noon - 12:50 p.m. and/or time of seminars

   Office hours:  T TH 12:30 - 2:00 p.m.  5:00-5:30 p.m.
   Also by request at any other time suitable for all parties involved.

   Students are strongly encouraged to see professor, if there are any questions and/or confusion. If you think to drop this course, please, have a talk with me before taking any actions.

II. COURSE DESCRIPTION
This course develops a student's ability to independently investigate a technical topic of interest, and the skills necessary to successfully communicate on that topic. Topics covered include finding, organizing, assimilating and reporting on technical information derived from published sources. Specific areas of study include literature searches, technical word processing, technical writing style, and oral presentation techniques.

I. PREREQUISITES FOR THE COURSE
Completion of 18 graduate hours in the Master of Science with a Major in Mathematics program.

II. TEXT AND OTHER SUPPLIES REQUIRED
The Craft of Research, by Booth, Colomb and Williams

III. COURSE OBJECTIVES
Successful completion of this course will enable graduate students to:
   1. Find, organize, assimilate, and report on technical information derived from published sources.
   2. Complete literature searches using printed volumes and electronic databases.
   4. Use appropriate technical writing styles.
   5. Make appropriate oral presentations.

IV. INSTRUCTIONAL METHODS AND ACTIVITIES
   Students will read the text and discuss it in class meetings. Hands-on demonstrations of library materials for literature searches and use of technical processors will be made. Students will complete independent research applying principles from the text and library techniques learned earlier.

VII. EVALUATION AND GRADE ASSIGNMENT
Course grades will be based on a weighted average of the following categories: in-class preparation and participation (30%), in-class presentations and written assignments (30%) and a final paper and presentation (40%). There will be no exams. The assignments will be graded on the following scale and grades awarded accordingly:
   1. Not Done - F
2. Done but Not Acceptable – D
3. Merely Acceptable – C
4. Good – B
5. Excellent – A

The description of the work done in the individual categories is:

§ **In Class Preparation and Participation:** Students will read the text independently and discuss it in class. Students will visit the library with the instructor to learn how to do literature searches. Students will also discuss various topics related to communication in the class meetings.

§ **In-class Presentations and Written Assignments:** Students will select an area to research and will give two short (10 minute) talks on the chosen topic. The students will also prepare two interim reports on your chosen topic.

§ **Final Paper and Presentation:** Students will expand the brief talks and interim reports into a written document and oral presentation. For Students in the Non-Thesis option of the program, the document will remain on file in the mathematics program as evidence of their work in the class. For students in the Thesis option of the program, the written document can be fashioned into a “prospectus,” or document describing what you intend to do for thesis.

§ **Participation in research seminar is required!**

**VIII. TENTATIVE COURSE SCHEDULE**

The class will meet once weekly. First seven weeks of the table below is the schedule for this Fall semester.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<th>Week</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>6</td>
<td>Revising</td>
<td>11</td>
<td>Independent Writing</td>
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<tr>
<td>2</td>
<td>Research in Print</td>
<td>7</td>
<td>Literature Searches</td>
<td>12</td>
<td>Second Presentation</td>
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<tr>
<td>3</td>
<td>From Topics to Sources</td>
<td>8</td>
<td>Technical Word Processing</td>
<td>13</td>
<td>Independent Literature Search</td>
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<tr>
<td>4</td>
<td>Developing Good Arguments</td>
<td>9</td>
<td>First Presentation</td>
<td>14</td>
<td>Independent Writing</td>
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<tr>
<td>5</td>
<td>Communication Evidence</td>
<td>10</td>
<td>Independent Literature Search</td>
<td>15</td>
<td>Final Presentation</td>
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**IX. CLASS POLICIES**

§ You are the only person responsible for your registration. No one will drop you for not attending class. Please make sure that you drop the class yourself if you are not able to continue coming to class.

§ Attendance is expected. It is the only way to do in-class work. Please notify by phone or email if you cannot attend class. If a sudden emergency keeps you from class, please notify me when you are able.