CMSS6590 Computational Methods for Coastal and Marine Systems
Department of Physical and Environmental Sciences
Summer 2017

A. COURSE INFORMATION

Course number/section: CMSS 6590.002
Class meeting time: M W 4 pm-6:30 pm
Class location: EN-107
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Alexey Sadovski
Office location: CI 338
Office hours: M T W R: 10AM-11AM T R 3PM-4PM
Telephone: 361-825-6028
E-mail: Alexey.sadovski@tamucc.edu
Appointments: email me to make an appointment to meet outside office hours

C. COURSE DESCRIPTION

Developing of computational and programming skills for doing research in the field of natural sciences.

D. PREREQUISITES FOR THE COURSE

N/A

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)
Required reading will be provided through Blackboard and different websites.

Supplies
Laptop and/or desktop, paper and pen or pencil
F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the courses student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:
1. Determine which software is more suitable for the given problem.
2. Learn Matlab and different toolboxes
3. To write and analyse computer codes.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Class time will mostly consist of group discussion, lecture, and work on the computer. Students will also give short, informal presentations.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Student learning outcomes will be measured in the 5 following progressive stages:

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Homework</td>
<td>30%</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>20%</td>
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<tr>
<td>Skills Assessments</td>
<td>10%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>10%</td>
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<tr>
<td>Exam 2</td>
<td>10%</td>
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<tr>
<td>Exam 3</td>
<td>10%</td>
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<tr>
<td>Final Exam</td>
<td>10%</td>
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</tbody>
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# I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>week</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>5/30-6/3</td>
<td>Introduction to Matlab</td>
</tr>
<tr>
<td></td>
<td>Environment and syntax</td>
</tr>
<tr>
<td>6/4-6/10</td>
<td>Variables</td>
</tr>
<tr>
<td>6/11-6/17</td>
<td>Commands</td>
</tr>
<tr>
<td>6/18-6/24</td>
<td>Data Types and M-files</td>
</tr>
<tr>
<td>7/3-7/7</td>
<td>Operators</td>
</tr>
<tr>
<td>7/10-7/14</td>
<td>Loop Types</td>
</tr>
<tr>
<td></td>
<td>Vectors</td>
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<tr>
<td>DATE</td>
<td>TOPIC</td>
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<td>----------------------------</td>
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<tr>
<td>7/17-</td>
<td>Matrices and Arrays</td>
</tr>
<tr>
<td>7/21</td>
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<tr>
<td>7/24-</td>
<td>Strings and Functions</td>
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<tr>
<td>7/28</td>
<td></td>
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<tr>
<td>7/31-</td>
<td>Data Output and Plotting Graphs</td>
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<tr>
<td>8/4</td>
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<tr>
<td>8/7-</td>
<td>Matlab Simulink</td>
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<tr>
<td>8/10</td>
<td></td>
</tr>
<tr>
<td>8/11</td>
<td>Final Exam</td>
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</tbody>
</table>

Note: Changes in this course schedule may be necessary and will be announced to the class by the instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Attendance/Tardiness
Punctual class attendance is highly recommended.

Late Work and Makeup
Exams
In general, late work will not be accepted. These drops are meant to cover all possible good excuses for late work, such as short term illness, technical problems, and family emergencies. Long term illness and official university business are probably the only exceptions to this rule. Make-up exams will not be given. If a student misses one exam, the student’s score on the final exam will serve as the score for the missed exam. If a student misses a second exam, they will receive a zero on that exam. For students who take every exam, the final exam score will replace the student’s lowest semester exam score (unless the final score is lower than all three semester exam scores).
Extra Credit
There is no extra credit given in this course. Just study diligently throughout the semester.

Cell Phone Use
Please turn off cell phones before class starts. I will ask any student with their phone out to turn it off and put it up. If this happens multiple times with the same student, I will ask the student to leave class. **Any use of a cell phone or wireless device during testing carries the presumption of cheating. A score of 0 on the item will result. Repeated offenses will result in an F for the class.**

Laptop Use
Please do not open laptops during class. This can distract others from learning, and part of my job is to provide a class atmosphere that aids student learning.

Food in Class
Please do not eat during class. This can distract others from learning, and part of my job is to provide a class atmosphere that aids student learning.

Missed Exam
See “Late Work and Make-up Exams” above.

Participation
Strong, consistent class participation is expected from all students.

K. COLLEGE AND UNIVERSITY POLICIES

• Academic Integrity (University)
University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

• Classroom/Professional Behavior
Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.
• Statement of Civility Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

• Deadline for Dropping a Course with a Grade of W (University) The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must be submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar at http://www.tamucc.edu/academics/calendar/ for the last day to drop a course.

• Grade Appeals (College of Science and Engineering) As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

• Disability Services The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-
If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University – Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

**L. OTHER INFORMATION**

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.