Texas A&M University - Corpus Christi  
College of Science and Technology  
Department of Computing Sciences  
Geographic Information Science Program  
Fall 2014

COURSE NAME:  GSEN 5300.002: Bases of Geographic Information Systems  -  3 sem. hrs.  
GSEN 5300.W01: Bases of Geographic Information Systems  -  3 sem. hrs.

INSTRUCTOR:  Seneca Holland  
Office: CBI 107, Phone: (361) 825-3712  
Email: Seneca.Holland@tamucc.edu

CONSULTATION: 8:30AM–12:00PM Thursday or by appointment.

LECTURE TIMES:  TBD  
Lecture is recorded and posted on IOL immediately after lecture ends

LECTURE LOCATION:  TBD and on the Island Online (IOL) using Blackboard  
http://iol.tamucc.edu

COURSE WEBSITE:  The Island Online (IOL) at: http://iol.tamucc.edu

COURSE DESCRIPTION:  
Basic principles and concepts of GIS via fundamental geographic and cartographic concepts. Understanding and use of GIS software to analyze data and produce maps. May not apply for credit toward the GSEN-MS degree.

LEARNING OBJECTIVES:  
1. Understand the principle concepts of geographic information systems and science  
2. Be familiar with the concepts of geography  
3. Be familiar with the software used to execute geospatial reasoning and analysis  
4. Be familiar with basic cartographic principles  
5. Be familiar with areas of application of geographic information systems

REQUIRED TEXTS:  
COURSE REQUIREMENTS:
Course requirements include the following:
1. Attend/watch lectures and participation in class discussions.
2. Completion of assignments by scheduled due dates.
3. Completion of application papers by scheduled due dates.
4. Completion of exams by scheduled due dates.

NOTE TO ONLINE STUDENTS:
Lecture recordings will be made available online immediately after the in-class meeting. It is your responsibility to watch the recordings in a timely fashion so you stay up with the course. Laboratory assignments will be completed on your home computer and must be submitted digitally to the Island Online. You are responsible for installing the GIS software in a timely fashion and keeping your home computer in working order.

EVALUATION:
1. Exam 1: 15%
2. Exam 2: 18%
3. Exam 3: 22%
4. GIS Application Papers: 10%
5. Assignments: 35%
   TOTAL: 100%

GRADE COMPUTATION:
A ≥90
B ≥80 and <90
C ≥70 and <80
D ≥65 and <70
F <65

DUE DATES:
All assignments must be completed on time. Submission of an assignment after the due date is accepted, but with a penalty of 30% of the grade for the first 24 hours late, and 10% each additional 24 hours.

DIGITAL ASSIGNMENT SUBMISSION INSTRUCTIONS:
Assignments submitted through IOL must follow the “Assignment Submission Instructions” document posted on the course website. Failure to follow the steps outlined in this document may result in deducted points for the assignment.

Assignments submitted through IOL will be returned through IOL.
## COURSE OUTLINE:

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>1-2</td>
<td>Introduction to GIS</td>
<td>Chapters 1 &amp; 15</td>
<td>Internet Mapping</td>
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<tr>
<td>3</td>
<td>Data Models</td>
<td>Chapter 2</td>
<td>GIS Data &amp; Metadata</td>
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<td>4</td>
<td>Map Projections and Coordinate Systems</td>
<td>Chapter 3</td>
<td>Projections &amp; Transformations</td>
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<td>5</td>
<td>Maps, Data Entry, Editing and Output</td>
<td>Chapter 4</td>
<td>Digitizing</td>
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<td>6</td>
<td>GPS</td>
<td>Chapter 5</td>
<td>GPS</td>
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<tr>
<td>7</td>
<td>Aerial and Satellite Images</td>
<td>Chapter 6</td>
<td>Aerial Photography</td>
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<td>8</td>
<td>Digital Data</td>
<td>Chapter 7</td>
<td>GIS Data Clearinghouse</td>
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<tr>
<td>9</td>
<td>Attribute Data and Tables</td>
<td>Chapter 8</td>
<td>Data creation/editing</td>
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<tr>
<td>10</td>
<td>Basic Spatial Analysis</td>
<td>Chapter 9</td>
<td>Spatial Analysis</td>
</tr>
<tr>
<td>11</td>
<td>Basic Spatial Analysis</td>
<td>Chapter 9</td>
<td>Spatial Analysis</td>
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<td></td>
<td><strong>Exam 1 - Covers Week 1-5</strong></td>
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<td>12</td>
<td>Terrain Analysis</td>
<td>Chapter 11</td>
<td>3D Terrains</td>
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<td>13</td>
<td>Spatial Estimation</td>
<td>Chapter 12</td>
<td>Surface Interpolation</td>
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<td>14</td>
<td>Spatial Modeling</td>
<td>Chapter 13</td>
<td>Suitable Site Determination</td>
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<td>15</td>
<td>Data Standards/Quality and Legal Aspects</td>
<td>Chapter 14</td>
<td>TBA</td>
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<td>Final Exam</td>
<td><strong>Exam 3 - Covers Entire Course</strong></td>
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<td>50% - Weeks 11-15, 50% - Entire Course</td>
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**Note:** This course outline is a general plan for the course; deviations announced to the class by the instructor may be necessary. The assignments that are given are related to Student Learning Outcomes stated above.
ADDITIONAL POLICIES AND INFORMATION:

Technological Excuses:
Hard drive crashes and other computer woes will not be accepted as excuses for late submission. Students should, given the complexity of the tasks they will pursue, be sure that they maintain adequate backup copies of all aspects of their work. Additionally, plan ahead so that you will have time to use the on-campus computers and printers if necessary. You may NOT submit papers/assignments by e-mail. If for some reason you feel you have to do this, you must ask for, and receive, permission ahead of time; furthermore, you may not consider an e-mailed paper/assignment to be submitted until you have received a reply confirming that I have received the paper/assignment.

Communication about Life Events:
It is your (student’s) responsibility to keep up with the course instruction, assignments, and examinations. Should a life event interrupt your ability to meet these responsibilities, you must inform the instructor about this as soon as possible and within a reasonable amount of time so that a course of action can be determined. Communicating with the instructor about these life events in an unreasonable time frame is not acceptable and will not change the outcome of missed work nor will it be a valid reason to receive an ‘Incomplete’ designation for the course.

Academic Integrity/Plagiarism
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 include, but not be limited to a grade of zero for the assignment, and referral to the office of academic affairs.

Dropping a Class
I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Refer to the University’s official academic calendar (http://www.tamucc.edu/academics/calendar/) to determine the last day to drop a class with an automatic grade of “W” this term.

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.

**Grade Appeals (College of Science and Engineering Version)**

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](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage ([http://sci.tamucc.edu/students/GradeAppeal.html](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.

**Disabilities Accommodations**

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 or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

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.

**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.