GEOG 268
Introduction to GIS & Mapping Sciences

COURSE SYLLABUS

Lecture/Lab: Two hours twice a week

Instructor: Gaurav Sinha
Office: Clippinger, 105A
Email: sinhag@ohio.edu
Phone: 740.593.0304 / 740.531.1872
Office Hours: Mon/Wed @ 11:30 am – 12:30 pm
(and by appointment)

Teaching Assistant:  
Office:  
Email:  
Phone:  
Office Hours:  

Course overview

Maps have been around for thousands of years to orient people about local and global geography. Paper maps will still be used extensively for a long time, despite the advent of digital mapping and mobile mapping technologies in developing countries. Regardless of the technology used for producing and sharing maps, the fundamental aspects of cartography remain unchanged. Today, maps are invariably produced using some kind of Geographic Information System (GIS). GIS technology has a strong basis in map making, but it truly is a functional integration of several types of digital geographic technologies, including spatial analysis, surveying, automated mapping, database management systems, and remote sensing. The value of GIS is widely recognized and in numerous disciplines within physical and social sciences, planning and engineering, and business analysis. This course has been designed to introduce students to geographic data collection, computer mapping, spatial analysis, and prepare them for upper level courses not only in Geography but also Environmental and Social Sciences, in general. Geographic information analysis often is integrated with other forms of data analysis. Hence, the course will also introduce students to the advantages of Microsoft Excel, compared to the scientific calculator. It is envisioned that students will use these skills throughout their program of study at Ohio University and beyond. ESRI’s ArcGIS 9.3 software platform and Microsoft Excel will be used to explore computational aspects of mapping. However, the goal of the course is not so much to master GIS or spreadsheet software, but to develop an awareness of fundamental mapping principles and technologies that are available for geographic analyses.

Learning Objectives

- Understand the scope of the mapping sciences and GIS technologies and their use in society
- Learn the principles of computer mapping
- Understand principles of data classification, symbolization, and map design and layout
- Familiarization with use of GIS software for decision making and geovisualization
- Learn strategies to efficiently collect, store and manage spatial data
- Explore tools in ArcGIS 9.3 and Microsoft Excel to solve simple spatial analysis and mapping tasks
Course Prerequisites
Basic understanding of computer file management, and high school level mathematical skills.

Suggested Reading (Recommended only)

Class lectures and lab exercise material will be the basis for exams and quizzes. Attending classes is therefore highly encouraged. Lectures will be supported by PowerPoint slides. The PowerPoint slides used for lectures will be made available regularly.

Grading (4 credits)
The lectures and lab exercises will be considered together for grading purposes. All lecture, class discussions, assigned readings, student presentations, lab exercises, and relevant book chapters will define the scope of quizzes and exams. One make up exam may be given (*but is not guaranteed*) when a student contacts the instructor either before the commencement of the scheduled examination with an acceptable excuse (such as illness, school sponsored activity etc.). In the case of serious illness or accident, a medical certificate from a physician will be required. Under no circumstance will a student be permitted to take more than one make-up exam in the quarter. The following is the grading strategy and schedule that will be used to determine the final grade for each student.

<table>
<thead>
<tr>
<th>Grade</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D+</th>
<th>D-</th>
<th>D-</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Range</td>
<td>100-94</td>
<td>93-90</td>
<td>89-87</td>
<td>86-84</td>
<td>83-80</td>
<td>79-77</td>
<td>76-74</td>
<td>73-70</td>
<td>69-67</td>
<td>66-64</td>
<td>63-60</td>
<td>≤59</td>
</tr>
</tbody>
</table>

*No automatic incomplete grade will be given.*

Attendance & Class Participation
Attendance and class participation is mandatory. Since the course relies heavily on in-class demonstrations and project work, punctuality and attendance is critical. It is strongly suggested that all students attend class everyday because there will be quizzes regularly during class, results of which will contribute to the final grade. Information provided through lectures will not necessarily be available in textbooks or even on the PowerPoint slides. If any topic is unclear after lectures, please do not hesitate to see me during office hours. If you are unable to attend class, please notify me ASAP. You will still be responsible for all material covered in class and deductions may be imposed for projects turned in late. If you miss class, you should make every effort to contact me before the next class so you can catch up on missed material. No extra credit is available and all projects and the final exam must be completed.
Other Instructions
Students will be asked to switch off all communication devices. Computer and laptop monitors can be switched only if permitted or during lab exercises. **Anybody caught violating these norms will be asked to leave the class.** The course will utilize Blackboard only partially for some postings. Some lecture and lab material will be made available only on the local network drive allocated for the class. Please check your O.U. email regularly as that will be the preferred system of communication. Also note that lab exercises are **extremely time intensive.** Please allocate sufficient time to work on labs beyond the officially allocated class hours.

Academic Integrity
Students are expected to abide by the Ohio University Student Code of Conduct. Depending on the nature of the violation, the instructor’s response may range from imposing grade penalty to assigning an automatic failure grade. Students will be reported to the respective advisor and appropriate school authorities in case of academic misconduct and/or misdemeanor in class.

Institutional Equality
In compliance with the Americans with Disabilities Act (ADA), all students who have a document disability are entitled to “reasonable academic accommodations.” If you are a student with special needs, it is your responsibility to be registered with the Institutional Equity representative at Student Services. In addition, you need to inform your instructor each quarter before the end of the second week of class.