GEOG 687
Seminar in Geographic Information Science

COURSE SYLLABUS

Class: @ 6:10 pm – 10:00 pm

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Office Hours:

Course overview
The term “Geographic Information Science” (GIScience) was first introduced in early 1990’s, and since then has been widely adopted. Unfortunately, a common mistake has been to use it in the same context as the well established term “Geographic Information Systems”. However, as will be revealed through discussions and readings in this class, the two terms refer to substantially different disciplines. It has only been formalized a decade ago, and now there is an active and ever growing community of researchers that engage with fundamental questions about the nature of geographic information and spatial analysis. A simple way to distinguish between GI Systems and GIScience is to understand the latter as the science of information systems used to solve geographic problems. Interpreted thus, GIScience becomes a fascinatingly multi-disciplinary and dynamic discipline that can be said to have a history predating even the coinage of the term GIS in the 1960’s. This seminar on GIScience will expose students to a wide variety of theoretical and philosophical ideas that are well known to the GIScience community. Selected readings will provide a basic introduction to some of the widely accepted ideas in GIScience, how these ideas apply to the design, development and use of geospatial technologies, and encourage students to critically assess the social processes that create and also demand consumptive use of geographic information. Students will be expected to think critically about the scientific basis of geospatial systems and the decisions made based on those systems. They will be required to discuss their ideas actively in class and demonstrate their grasp of GIScience principles in a research paper.

(Tentative) Discussion Topics
The following topics will be discussed and supported through assigned readings:
1. Introduction to GIScience
2. Spatial representation
3. Spatio-temporal data modeling
4. Map generalization
5. Geospatial ontology
6. Spatial data
7. Geographic information retrieval
8. Spatial analysis and decision making
9. Critical GIS
In the interest of flexibility and because the instructor needs to first assess the general interest and abilities of students, the final list of readings will be made available only two weeks in advance. All reading material will be uploaded in Adobe PDF format on the university Blackboard curriculum management system. Students are also encouraged to submit readings of their choice to the instructor for possible inclusion into the reading list for future weeks.

Grading

This seminar will rely mostly on class discussions of assigned readings as a medium of learning. The instructor will only act as a facilitator to clarify doubts or to moderate debates, if necessary. The grading criteria will be subject to the fulfillment of the following requirements:

- Each week, one student will be assigned the responsibility of leading and moderating discussions.
- Students will be expected to prepare notes for every assigned reading and submit at least three questions for every reading to the moderator at least one day in advance.
- Students will be expected to participate actively in class and online discussions.
- Students will be required to submit a final paper on a topic selected by the student.
- The research paper topic and the general idea will need to be approved by the instructor.
- The research paper topic should be approved by the third week of the quarter.
- An abstract for the paper will be expected by the fourth week of the quarter.
- A first draft of the research paper will be expected by the eighth week of the quarter.
- All students will also be required to present their paper on the last day of class.
- The final version of the research paper will be due on the last exam day of the quarter.
- The final grade will be calculated based on the following rule:
  - Participation 60%
  - Final Paper Draft 15%
  - Final Paper 20%
  - Paper presentation 5%

Attendance & Class Participation

As is evident from the grading strategy, attendance and class participation will determine 65% of the grade. Pre-approval is required for planned absences. Consideration will be made for emergency related absences, but it is up to the instructor to determine the validity of the reason for absence. If any topic is unclear after lectures, please do not hesitate to see me during office hours or make other appointments.

Other Instructions

Students will be asked to switch off all communication devices. Computer and laptop monitors can be used only with the instructor’s approval. **Anybody caught violating these norms will be asked to leave the class.** The course will utilize Blackboard to post all papers and discussions. Some material may 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.