

Geography 4193 Individual Studies in Geography – Spring 2016

Class times: M, W 4:10 - 5:05 pm
Classroom: Derby Hall, room 0070

Instructors: Jason Cervenec, Jim DeGrand, Aaron Wilson

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Course Description: In this course, we will build, test, and deploy a device for monitoring atmospheric temperature, relative humidity, and geographic location. We will then use this device for investigations of temperature/moisture variability within an urban environment and between urban and rural areas (the urban heat island or UHI). Our investigations will be informed by weekly readings from the literature on UHIs in atmospheric science and climatology. As we go through this process, you will acquire basic skills in electronics, 3D printing, sensor evaluation, data analysis, and visualization.

Course Expectations: Your participation is critical to the success of this course. Without you, the devices will not be built, the data will not be collected, and no analyses will be made. Therefore, the one criterion for passing the class is your participation in all phases of the course: fabrication, data collection, data analysis, weekly readings and class discussions.

Evaluation: This course is graded on a Satisfactory/Unsatisfactory (S/U) basis. In order to receive a grade of satisfactory, students

- may have no more than 3 unexcused absences from class. Absences must be documented in some fashion in order to be considered excused. Examples of excused absences include illness, death in family, jury duty, etc.
- must participate in all aspects of the course. This means actively helping with the fabrication of the device, participating in field tests and experiments, doing the weekly reading assignments and participating in class discussions centered on those readings.
- Keep a bound notebook/journal relating to fabrication activities and fieldwork. Additional instructions will be provided for the notebook/journal in the fifth week of the course.
- Deposit summaries of the weekly readings to Carmen. Summaries should be 1-page, typed, 12-point font, single spaced with one-inch margins and are due at 4 pm the day the article is scheduled to be discussed in class.

We may use the final exam period allotted to this course for a final class activity.

Schedule: This is an experimental class so it is difficult to be specific at the beginning with regard to when each activity in the course will take place. In general, we anticipate the semester will be divided into 3 roughly equal parts: construction of the device, evaluation of the device and, finally, field experimentation involving data acquisition and analysis. In general, weekly readings will be assigned on Wednesdays and will be discussed the following Wednesday. A schedule for the first 5 weeks of the course is included on Carmen. Detailed schedules for the remainder of the semester will be distributed as we move through the course.