STA 3951 Oral Presentations
COURSE SYLLABUS

Prerequisites: STA 4321, STA 4322, STA 3163, STA 3164

Course Description: This course is an exit requirement for all graduating statistics students. The course requires the students to design a study and analyze relevant results (henceforth referred to as the senior project). They present the results of the study in a written report at the end of the semester as well through an oral presentation. Although there are no formal lectures in this course, GL content will be integrated into STA 3951. The GL content in the course will be assessed by three departmental faculty at the end of the semester using the attached rubric.

Incorporation of Global Learning into the Senior Project.

1) Senior Project

At the beginning of the semester, students will receive guidelines as to what type of project they cab pick. The project will have to have a global perspective. Examples of such projects (the list is not comprehensive and only represents an example) are as follows:

a) A study on human rights in different countries. Students could do a study on differences in human rights in different countries. For example do women in the US have more freedom in the United States as compared to India. Students could obtain data on right to vote, percentage of female drivers, percentage of women in jobs considered to be traditionally male dominated jobs (like engineering, police and the army). The data would then be analyzed through statistical techniques to see if there is a difference
b) A study on global economy: Students could conduct a study to investigate the effect of an economic crisis in a country on other countries around the world. As an example the effect that the Greek debt crisis has had on the economy of the US. The effect of the US recession on the economy of other nations. Analytical techniques could be correlations between the market indicators in the countries, correlations between economic indicators etc, regression analysis etc.
c) Attitude towards education in different ethnicities in the city of Miami
d) Analysis of data on catastrophic events around the world, examples can be weather related like devastating Tsunamis, hurricanes or earthquakes or non weather related like terrorist attacks. The students could analyze available data to look for trends.
e) An investigation into the incidence of skin cancer in South Florida (where there is more sun exposure) and compare it to skin cancer rates in the rest of the country.

2) Case Studies and Readings

In addition to the senior project, the students will be required to conduct an in depth study on global warming. This will require students to read some background material on global warming from different perspectives and then analyze data sets to arrive at their own conclusion on global warming. The following will be required readings for the course:

http://www.ncdc.noaa.gov/oa/climate/globalwarming.html

http://www4.uwsp.edu/geo/faculty/ritter/geog101/textbook/climate_systems/climate_change.html

http://online.wsj.com/article/SB10001424052970204394804577012014136900828.html?mod=googlenews_wsj

The first website is essentially a fact sheet on global warming, the second website makes a case for global warming while the Wall Street journal article raises questions on whether global warming is real by questioning the validity of the data analyzed. Coupled with these readings, the students will examine data at the following web sites and form their own conclusion as to what the data are telling them about global warming. At the end of the semester, they also present their findings defend their view points against the view point of others.

a) Data sets for CO_2 and other atmospheric gasses.
   http://www.esrl.noaa.gov/gmd/ccgg/iadv/index.php

b) Data sets for ocean and air temperature.
   http://www.nodc.noaa.gov/General/temperature.html

c) Data sets for solar radiation.
   http://www.ngdc.noaa.gov/stp/solar/solarirrad.html

While there is little disagreement amongst scientists that the Earth is exhibiting a warming trend, there is disagreement on the causes and whether the warming trend is evidence for global warming. Scientists also agree the concentration of greenhouse gases in the atmosphere is increasing. The debate is on whether the increased temperatures are evidence for global warming and if so, are greenhouse gases the principal cause. The above readings and the case studies are intended to exploit such multi-perspective beliefs about global warming and engage the students in a debate of their own.

Thus course will then fulfill all the requirements of GL SLO's. In order to complete the project the students will have to acquire knowledge of global issues and analyze data sets relevant to global problems leading naturally to global engagement.

The course outline will be as follows:

1. Week 1- Week 5: Develop individual research problems with help of advisor.
2. Week 6- Submit written proposal to advisor
3. Week 7-Week 11 – Collect and Analyze Data. Write a report on the results
4. Week 12: Present view points on climate data and the results of the senior project in an oral presentation and a written report.

Assessment: Three members of the faculty will assess the oral presentations and the written report for global learning outcomes. The assessment will be based a rubric rated on a scale of 1-5. In addition, the written report and the oral report will also be assessed according to the SLOs for SACS and for the department.

Course Learning Outcomes:

Global Learning Course Outcomes:

Global Awareness: Students will be able to identify local, global, international or intercultural issues and devise a project to analyze the trends, differences and or patterns at the global, local or cultural level.

Global Perspective: Students will be able to conduct an analysis of a statistical problem by showing how different perspectives on contributing factors influence interpretations of the problem, its impact, and/or solution. Specifically, students in this course will be able to conduct a multi-perspective analysis of a global issue, namely climate change.

Global Engagement: Students will be willing to develop solutions and action plans to address local, global and/or international statistical problems.

II. SACS Learning Outcomes:

Students with a bachelor's degree in statistics will be able to:

a) Demonstrate competency in the subject knowledge of Statistics by having a strong command of the principals of parametric and nonparametric statistics, be able to design an experiment and collect data in a meaningful way and analyze the results using the appropriate statistical techniques.
b) demonstrate their ability to think critically in terms of identifying and summarizing a problem or question, analyzing and examining ideas and research findings, assessing the influence of context, and constructing and interpreting information within Statistics
c) demonstrate effective written communication skills in Statistics by explaining content and developing ideas, effectively organizing information, demonstrating a command of the written language, and using the conventions of language and documentation appropriately.

Assessment:

Each of the three Global Learning Course Outcomes (Global Awareness, Global Perspective, and Global Engagement) will be assessed via a rubric on a scale of 1 through 5 with 5 representing “excellent” and 1 representing “poor”.

Textbooks:
No textbooks are required for this course.

Prerequisites:
Last course in statistics