

August 24, 1999

Dr. Donald R. Johnson
Universities Space Research Association
7501 Forbes Boulevard, Suite 206
Seabrook MD 20706-2253

Dear Don:

This letter is our annual report for FY 1999.

In Fall 1998, ENS 1001 The Whole Earth Course was offered at Florida Institute of Technology (FIT) for the 2nd year. A total of 42 students, which included freshmen to senior level students, completed the class. Six modules (cosmosphere, geosphere, hydrosphere, atmosphere, biosphere, anthroposphere) were integrated to form a holistic viewpoint of the Earth Systems. This class was team-taught by a panel of 8 professors: Dr. George Maul (Division of Marine and Environmental Systems); Dr. Hamid Rassoul (Physics and Space Sciences); Dr. Mark Moldwin (Physics and Space Sciences); Dr. Robert Fronk (Science Education Department); Dr. John Windsor (Oceanography & Environmental Sciences); Dr. Michael Witiw (Division of Aviation Studies); Dr. Gary Wells (Biological Sciences Department); and Dr. Iver Duedall (Oceanography & Environmental Sciences). The course started with a guest speaker, John Liebler, MD., giving comparisons of the Human Body System to the Earth Science System. A quiz and a homework assignment were given during each module. At the end of two modules, an exam was given. Three exams, including the final were given. A computer-assisted instruction tutorial, "The Whole Earth", was offered twice a week. Students gave group presentations at the end of the semester, with each member having to research one module that related to their term project. A graduate student assistant was supported by the USRA grant for this class.

In Spring 1999, ENS 4001 The Earth System: Extreme Natural Hazards was offered for the 2nd year. Ten students, all seniors, were enrolled in this course. This class was a senior capstone course with the objective to revisit topics seniors learned through their college career. This focus of this class was extreme natural hazards and how they affected each of the six modules. Some of the hazard topics included hurricanes, floods, tornadoes, meteors, mudslides, tsunamis, and fires. This course was team-taught by a panel of 11 professors: from above: Drs. Maul, Rassoul, Moldwin, Windsor, Witiw, Duedall; Dr. Mark Bush (Department of Biological Sciences); Dr. Dean Norris (Division of Marine and Environmental Systems); Dr. Jean-Paul Pinelli (Civil Engineering); Dr. Slotkin and Dr. Chambliss (School of Business); Dr. Paula Krist (Office of Institutional Research). John Liebler, MD was a guest speaker for this course. Students earned their grade in this class by writing "white papers" every two weeks about specific events and then

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Our mission is to integrate oceanography, ocean engineering, environmental science, meteorology, and related academic concentrations into interdisciplinary knowledge-based optimal solutions to vital contemporary issues through education, research, and service.

discussing them in class. Also, three mock debates were held during the semester in which the students were assigned specific roles to play. An example of one debate is having the students role play government agents, farmers (chicken and pig), environmental agents and lawyers to debate the recent *Pfiesteria* outbreak. The USRA grant supported a graduate student assistant for this class.

Attached you will find the syllabi for both courses.

In part his letter is to request a no-cost extension of the project to September 30, 2000. We have been frugal in spending the ESSE funds and would like to use them to support Ms. Julie Eardley for one more year as our teaching assistant. I think the benefit to the university and to the ESSE program make this request an easy approval.

Thanks in advance.

Yours truly,

A handwritten signature in cursive script that reads "George".

George A. Maul, Ph.D.
Professor and Director

Enclosures

cc: M. Kalb, USRA
M. Ruzek, USRA
FIT ESE Faculty