

**Research and Study in Virginia and Mali, West Africa
Special Undergraduate Studies Entomology ENT 4984:**

Course Specifics:

Fall Semester, 2008 and Spring Semester 2009
Special Study, ENT 4984
Index Number:
Scheduled Meeting time 1:00 PM Fridays
Price Hall Computer Classroom 301A
Other meeting times will be arranged as needed.

Course Credit:

Two hours of credit per semester (totaling 4 credit hours) credit; one lecture per week. A two week trip to Mali, West Africa will be made during the winter break. An A-F grading scale will be used.

Course Instructors:

Dr. Don Mullins, Department of Entomology
319A Price Hall, 231-5978, e-mail: mullinsd@vt.edu

Dr. Richard Fell, Dept. Of Entomology
324 Price Hall, 231-7207; email: rfell@vt.edu

Course objectives:

- to introduce students to issues associated with international agricultural research
- to provide students with an opportunity to observe agricultural research practices by participation in some research activities
- to learn about Malian culture

Class Participation

Class participation is defined as attending class and participating in discussions, group activities and field projects, and acting as a responsible ambassador of Virginia Tech. Students who do not meet these criteria will receive a reduced course grade.

Course Journal and Final Paper

Students must maintain a course journal that will include summaries of the weekly class room activities/meetings, information on their field research projects and their travels in Mali. Daily entries summarizing activities will be expected while in Mali. The final project paper will consist of a report focused on the students research and activities learned from the course.

Submission of Final Reports

For all students, final journals and papers are due by July 1, 2009.

Fall Semester:

Students selected for the program will:

- participate in weekly meetings with faculty who will discuss a variety of topics related to international agriculture, culture, economics and research,
- select a research project in which they will participate. Students will develop a research proposal and begin to acquire some of the skills and techniques necessary for conducting their project. Examples of such projects might include the analysis of pesticide residues on crops, or the development of alternate insect control procedures utilizing natural biological materials such as soaps or neem extracts.

Winter Break:

Students will:

- travel to Mali during Winter break for a 2 week period before the start of the second semester.
- observe Malian agricultural practices, and conduct field work in accordance with their proposed research (i.e. collecting samples for analysis which can be processed and transported to Virginia Tech for further study).
- Each student should bring a camera to record activities and provide photo-proofs for use in their presentations

Spring Semester:

Students will:

- Submit a trip report on Mali derived from their journal.
- complete their respective research projects.
- submit a final written report which details not only their research, but also their experiences with agricultural practices and culture in Mali.
- Develop a PowerPoint presentation summarizing their research and Mali experience.

3. Sharing of the experience. Students will be asked to share their experiences with students enrolled in other university courses. This exchange of information and experience by students who have participated in the course is designed to increase general student awareness of international agriculture and the opportunities that exist for international involvement.
4. Examples of topics that can be developed as research projects.

- a) Neem extract evaluation and development (Mullins et al.)
- b) Soil pesticide residue analysis (Mullins et al.)
- c) Water quality analysis (Mullins, et al.)
- d) Beekeeping/pollination practices (Fell et al.)
- e) Pesticide efficacy and water quality issues (Mullins et al.)
- f) Weed control issues (Westwood et al.)
- g)** Plant disease problems and management (Hansen et al.)
- h)** Pesticide safety training (Hipkins et al.)
- i)** Malaria control: mosquito genomics (Drs. Sharakhov and Sharakhova)
- j)** Others?? Other diseases, economics, etc.