

Oak Ridge Science Semester Interdisciplinary Seminar

Fall 201X

Instructor:

Office:

Classroom: Building 5100, most days in Room 262

Email:

Office hours: MWF 9-9:30 am; TR 9:30-10 am; by appointment, including some evenings.

In addition, I will usually be in the seminar room at 3 pm on the day of the seminar for informal conversation with any of you who would like to chat. This would be a good time to connect with me and your peers.

Course goals

An important component of your experience at Oak Ridge National Lab is attendance and participation in the weekly seminar series. Many of you may have already been exposed to seminars at your home institutions. Seminar attendance is a necessary part of professional life, whether you become a research scientist, physician, college professor or CEO of a company. Professionals use seminars to disseminate information and as a forum for free exchange of ideas. It is important to cultivate the habit of attending seminars early in your academic career. It is also necessary to learn the proper etiquette for conducting yourself in a professional manner.

The objectives of the weekly seminar series are to:

1. Introduce students to a broad spectrum of the science being done at ORNL.
2. Stimulate students to think creatively by exposing them to current scientific research processes, ideas, results, etc.

Texts and other materials

No text is required, but you should take notes. One strategy is to have a Seminar Notebook; you can use then use this Notebook on your home campus and in graduate school. It is nice to be able to have a record of seminars you have heard over the years.

In addition, you may occasionally need to use the ORNL Research Library resources for seminar-related assignments.

Meeting times, format, and expectations

Seminars are usually on Wednesday from 3:30-5 pm. As mentioned above, I will usually be in the seminar room at 3 pm. Most seminar speakers will take about an hour for their presentation, which will be followed by a question/answer session.

Prompt attendance at all seminars is mandatory, and absences will severely impact your course grade as noted below. If you are unable to attend a seminar (for any reason), contact me before the seminar. Active participation in the seminar is expected. Having questions is a good thing! For each speaker, there will be a seminar evaluation and a short written assignment. Taking good notes, paying attention, and asking questions will help you complete these assignments. Since you come from a broad range of interests, disciplines and backgrounds, seminars necessarily cover a broad spectrum of science. While you may not follow all details of a seminar not directly in your field, you should be able to extract some valuable information of interest from each talk. The seminar speakers are scientists from ORNL who are nationally, and even internationally, recognized in their field. They are generously donating their time to us.

They do so out of a sense of professional pride and their commitment to educate younger scientists. As professionals, they recognize the importance of seminars to your development. Please respect the speakers and conduct yourself in courteous and professional manner. This means that you must arrive on time (generally a few minutes before the scheduled time, since pre-seminar time is a good time to chat with your peers and me). If you run into problems and are going to be late, please enter the room as quietly and unobtrusively as possible. During the seminar, please direct your attention to the speaker. Avoid your urge (or need) to nap by taking notes or by bringing something to drink with you. Refrain from talking to your friends. You would be surprised by how much the speaker can hear when your whisper in the back of the room. Such behavior is distracting to the speaker and audience, and demonstrates a lack of respect for a fellow scientist.

Remember that you are receiving graded college credit for seminar. You will be graded on attendance, participation, and short written assignments as discussed below.

Point distribution and explanation

Attendance, including punctuality see below

Participation and professional respect 20

Seminar evaluations and written assignments 70

Student descriptions of research 10

Total 100

Attendance and punctuality:

Each unexcused absence will reduce your grade by one letter. If you are unable to attend a seminar (for any reason), contact me before the seminar. Tardiness will reduce your grade incrementally.

Participation and professional respect:

Each of you should be engaged in the seminar as noted above. While I am not requiring you to ask a specific number of questions of each speaker, I will notice general trends in your questions and participation or lack thereof. Plan on being engaged in the question/answer session at the end of each seminar.

Seminar evaluations and written assignments

I will collect a short assignment and an evaluation of the previous seminar at the start of each week's seminar. Failure to submit the assignment will count as an absence for that seminar with the same impact on the seminar grade. More details will follow on the written assignments.

Student descriptions of research

Early in the seminar series you will have the opportunity to tell the rest of us what you understand your project to be. These “presentations” will be very short: one or *at most* two PowerPoint slides. You should spend about three minutes describing your project, and then the rest of us will ask questions for about three minutes. You will be graded on your ability to explain what you are doing (and what you intend to do) and on your slide(s)—do not put too much information on a slide! You will not be graded on whether or not you fully and completely understand every aspect of what you will do over the semester.

Grading cutoffs

A-/B+ 90

B-/C+ 80

C-/D+ 70

D-/F 60

Miscellaneous

Late work will not be accepted, and makeup assignments will not be given. If you need to miss a seminar, let me know ahead of time; if the reason is good the assignment in question *may* be excused at my discretion. Please contact me if you are having difficulty with the course or if a serious sickness/incident occurs during the course.

Any student with a situation which could affect your learning (e.g., chronic health condition, serious family trouble) should contact me as soon as you know about the situation.

If medical or psychological conditions arise during the course, please consult with me, and/or with a medical or psychological health provider, *before* your progress in the course may become impeded.

We are committed to providing equal educational opportunities to all students. If you have a documented learning disability and will need any accommodation in this course, you must request the accommodation(s) from me as early as possible and no later than the second week of the term.

I will provide reasonable accommodation for those students whose religious observances may intersect with planned class activities. You must see me by the second week of the term to arrange any accommodation.

Discussing the seminar together is appropriate and helpful. However, academic and scientific misconduct will be dealt with harshly. Examples include, but are not limited to, submitting another's work or ideas as your own. **Any** question about what is (or is not) appropriate in academia or science should be directed to me. If there is any doubt at all then please ask.

Schedule

Below is a schedule for the seminar. The topics will span the range of science being done at ORNL. We are also planning on a few tours. Note: this schedule is for the seminar only; a full schedule including optional and mandatory Brown Bag Lunches and other activities will be distributed separately.

Intro W 26 Aug Syllabus, seminar parameters

Wk.1 Monday 31 Aug Overview of Oak Ridge National Laboratory

Doug Speight

University Partnerships

2 W 9 Sept Descriptions of research projects

ORSS and other students

3 W 16 Sept Ethics in Science; Scientific Integrity

Barry Berven

Biological and Environmental Sciences Directorate

4 W 23 Sept Tour: High Flux Isotope Reactor

Larry Merryman

Research Reactors Division

5 W 30 Sept Applying Social Networking and Web 2.0

Principles to Information Sharing

David Resseguie

Computational Sciences and Engineering Division

6 W 7 Oct Environmental Monitoring of Source Drinking

Water with Green Algae and Cyanobacteria

Eli Greenbaum

Chemical Sciences Division

7 no seminar; Symposium (student research talks) on Thursday 15 October ☐

8 W 21 Oct Tour: Robotics

Tom Burgess, Adam Carroll, and Craig Bradley

Nuclear Science and Technology Division

9 W 28 Oct Fish Health and Bioaccumulation Studies for

Evaluating Fly Ash Exposure and Effects in

Aquatic Ecosystems

Marshall Adams

Environmental Sciences Division

10 W 4 Nov Tour: Spallation Neutron Source

Sam McKenzie

SNS Facility Operations Office

11 W 11 Nov Bizarre Concepts in Astrophysics

Michael Smith

Physics Division

12 W 18 Nov Tennessee Zero Energy Homes

Jeff Christian

Energy and Transportation Science Division

13 no seminar (Thanksgiving week)

14 W 2 Dec Computational Chemistry Studies of Ionic Liquid

Systems

Craig Teague

Nanomaterials Chemistry Group

15 no seminar; Poster Session on Thursday 10 December