Lecture 1: Aug 24, 2005

This lecture was an introductory lecture to the class to get everyone acquainted with how it would be set up and the different topics we would be covering. The handout for the lecture covered the topic of the History of Biology and the Land Grant University System. Some of the major events in biological advancement were discussed, and ways that technology/science/culture have progressed. The establishment of the Land Grant system through the Morrill Acts was discussed; how it helped the “working class” obtain a higher education.

Lecture 2: Aug 31, 2005

This lecture was about Information Technology. We discussed how society has evolved to where we are now from simple to complex and how IT has played a role in this change. Some of the key factors of IT are that it resolves uncertainty, and that the information gained must be communicated/transferred and is done so through the use of computers. Some of the new technologies such as Bioinformatics and GPS/GIS were discussed, as well as how our Land-Grant University system is a conduit of IT. We discussed that the internet is not just the WWW, but also email, etc.

Lecture 3: Sept 7, 2005

This lecture discussed the Scientific Method. The development and evolution of science was discussed. Books such as “The Selfish Gene” with the idea that genes perpetuate themselves were discussed in terms of the evolution of intelligence. We discussed how we all think we know and understand the scientific method, but a lot of times we don’t follow it as we should or we skip steps in the process of research. We talked about how GPS project and Hypothesis development for that project.
Lecture 4: Sept 14, 2005

This lecture was presented by Jean Cobb covering the topic of Good Laboratory Practices (GLP). She discussed how using GLP's can make research more sound by improving the quality of the data. There are a set of guidelines that are developed and followed to be GLP certified. SOP’s were discussed and how they help make procedures followed to a certain criteria. We also took a lab tour to supplement the lecture.

Lecture 5: Sept 21, 2005

This lecture discussed Scientific Writing. (I was absent for this lecture) The handout for the lecture describes the historical aspects of scientific writing and how this is a relatively recent development. Early writing consisted of cave drawing, writings on papyrus, etc. The handout discusses the format of scientific writing, including the IMRAD (introduction, materials & methods, results, discussion). The assignment was to read “The Science of Scientific Writing” by Gopen and Swan.

Lecture 6: Sept 28, 2005

This lecture was a continuation of last week’s lecture on Scientific Writing and we had a group discussion of the paper “The Science of Scientific Writing” by Gopen and Swan. Specifically we discussed reader expectations, subject-verb separation, the stress position, the topic position, perceiving logical gaps, locating the action, and different criteria to see that all these points are met in a body of work. We discussed the Writing Sequence with the main points of Prewriting, Writing, and Rewriting and all the points going along with that. The flow chart introduce here was a good visual interpretation of this process.
Lecture 7: Oct 5, 2005

This lecture was given by guest speaker Sue Tolin on Biological Compliance. We discussed how this came about, the management of conforming to a certain level of Biosecurity, how these are managed at VT, steps we need to comply with if using/transporting certain biological agents, forms to file, etc. The roles of the PI were discussed in terms of maintaining compliance. Interesting topic, but may only apply to a small section of researchers in our class. It would be interesting to pole the class to discuss our research topics and see how many of us should be taking part in some kind of formalized compliance issues but either we don’t do it because no one requires it of us, or we are unaware we need to.

Lecture 8: Oct 12, 2005

This lecture we discussed the process of designing a research project. First we covered the basic steps of design and reviewed the Scientific Method. This lecture showed a lot of examples of how to determine the parts of the research, for example, identifying the Factors, their Levels, and the Response Variable. Also discussed were the types of data and types of response variables. This was a good lecture to help us really analyze design of experiments to be sure we understand the components and help us to be able to better design our own projects.

Lecture 9: Oct 19, 2005

This lecture covered the topics of Data Analysis and Visualization (DAV). We discussed the importance of graphics to DAV to see patterns in the data and for communicating that data to others in a clear and understandable manner. We reviewed examples of different types of graphs both good and bad and discussed the aspects of
each. The main point from this lecture would be that when making a graph be sure it is clearly labeled, keep it simple (no distractions), and have a lot of information in a simple form.

Lecture 10: Mid-term Exam

Lecture 11: Nov 2, 2005

This was a very good lecture from Dr. Fell. He demonstrated how to give an excellent presentation before a class. He touched on many different points that make a presentation good and how to keep your audience interested.

Lecture 12: Nov 9, 2005

I was absent from this lecture because I was out of town at a conference. This lecture was on Grant Writing, by guest lecturer Dr. Tolin.

Lecture 13: Nov 30, 2005

This was a lecture on Distance Education. Different items that should be a part of a distance education class were addresses as well as some of the good and bad points that go along with both teaching or taking and on-line class.

Lecture 14: Nov 30, 2005

This was a lecture from guest speaker Dr. Pheiffer. His topic was Ethical Issues in Ag. and Life Sciences. He covered several items that come under the topic of ethics. Several of which many of us don’t normally think of at being issues of ethics. Overall this was a thought-provoking lecture.
Lecture 14: Nov 30, 2005-night session

We had a nice dinner-discussion continuing the topic of Ethics in science. We listened to a presentation from Dr. Skip Jubb on what it is to lie. We also watched several videos on ethical issues concerning authorship and data reporting.

Lecture 15: Dec 7, 2005

This was the final lecture of the semester. Our guest lecturer, Dr. Nessler presented on Intellectual Properties. This was an interesting lecture for those of us planning on continuing our careers in academia. He told us about the patenting process and how VTIP was set up to help university affiliates with licensure, etc. Interesting lecture overall.