

Biology 405W -Biology Seminar

Dr. Kerry S. Kilburn
Spring 2001

<http://www.lions.odu.edu/~kkilburn/semhome.htm>

General information about the course	2
Course requirements and assignments	3
Evaluation and grading	8
Faculty sponsor and student responsibilities	8
Tips for technical writing	9
Tips for oral presentation I: the talk	14
Tips for oral presentation II: visual aids	16
Sample seminar critiques	18
PowerPoint tutorial materials	20
Biology faculty and their research interests	22
Faculty sponsor and topic sheet	23
Bibliography Form	25
Talk outline form	26
Paper outline form	27
Oral presentation evaluation form	28

General information about the course

Course coordinator:

Kerry S. Kilburn, Ph.D.

Office: MBG 302A, 683-5680,

e-mail: kkilburn@odu.edu, kkilburn@infi.net

home page: <http://www.lions.odu.edu/~kkilburn/home.htm>

Office hours: T 9:00 - 11:00 a.m.; WF 1:00 - 2:00 p.m.; and by appointment

Course objectives and general structure:

The primary objective of this course is to give you experience in preparing and making an oral presentation and to improve your ability to write technical papers in a professional scientific format. To those ends, you will perform library or a combination of library/laboratory/field research under the guidance of a faculty sponsor. From that research you will develop a short oral presentation designed for an audience of your student peers and a comprehensive technical paper to be presented to your faculty sponsor. This course meets the general education requirements for an upper-division writing-intensive course and for a course that develops oral communication skills.

Class schedule:

Week	Date	What's happening
1	1/8	Introduction; technical writing
2	1/15	Oral presentations I; signed sponsor sheets due in class
3	1/22	Oral presentations II
4	1/29	Introduction to PowerPoint (Lib 163); signed bibliography forms due in class
5	2/5	Practice talks
6	2/12	Practice talks; signed talk outline forms due in class
7	2/19	Presentations begin

8-15	2/26	Presentations; signed paper outline forms due in class papers due to sponsors Mon 3/12 papers returned by sponsors Mon 4/2 rewrites due to sponsors Mon 4/16
------	------	---

Honor code:

By enrolling in this course, you are agreeing to abide by the University Honor Code. Any offenses will be dealt with according to University policy.

Supplemental resources:

Robert Day's *How to write and publish a scientific paper* (5/e) is an excellent guide to both writing papers and preparing oral presentations. It is available in the library's reference department and can be ordered from any bookstore.

The course homepage includes links to web-based resources on writing, oral presentations, and developing graphics (and an on-line version of the syllabus in case you lose yours). The url is <http://www.lions.odu.edu/~kkilburn/semhome.htm>.

Course requirements and assignments

Due dates:

Final dates for submission of completed written materials are outlined above. Unless I indicate otherwise, these are the dates that must be followed. Five points per calendar day will be deducted from your final score for each unexcused late submission.

Attendance:

We cannot have talks without an audience of interested and responsive listeners. Therefore, your attendance and participation are required at all scheduled class meetings. Five points will be deducted from your final grade for each unexcused absence.

Preparatory materials:

To ensure that you are making appropriate progress in the course, you must submit materials to your faculty sponsor in preparation for both the oral presentation and the written paper.

Signed forms are due to the faculty coordinator according to the dates provided in the general class schedule, and may be delivered in person or left in my mail box in the department office (MGB 110). Please make sure

that all forms include your name, the date the form is actually submitted, and the day on which your section meets.

You may submit forms to your sponsor (if they approve) via e-mail. To submit completed to the coordinators via e-mail, obtain an e-mail message from your sponsor indicating that s/he has approved your bibliography, outline form, etc., then forward that e-mail message to the course coordinator. E-mails to the course coordinator must include a full return path to the faculty sponsor to ensure that s/he has reviewed the relevant documents. Do not simply e-mail the coordinator with a message saying your sponsor has approved your materials.

The ***signed faculty sponsor and topic sheet*** constitutes an agreement that your faculty sponsor will work with you during the semester and grade your oral presentation (if possible) and your written paper. Changes to your topic are fine, so long as they have the approval of your faculty sponsor. If the topic changes drastically, you should let the coordinator know in advance of your oral presentation.

The ***signed bibliography form*** indicates that you have provided your faculty sponsor with a preliminary list of sources for your talk and paper. You should submit the bibliography itself to your sponsor sufficiently in advance of the deadline for your sponsor to review the bibliography and discuss it with you before the signed form is due to the course coordinator.

The ***signed talk outline form*** indicates that you have provided your faculty sponsor with a detailed outline of your oral presentation. This should include a list of topics and specific content in as much detail as possible. You should also include drafts or descriptions of the visual aids (overheads, slides) you plan to use to illustrate the talk. You should submit the outline itself, along with any supporting graphics, to your faculty sponsor sufficiently in advance of the deadline for your sponsor to review and discuss it with you before the signed form is due to the course coordinator.

A ***signed paper outline form*** indicates that you have provided your faculty sponsor with a detailed outline of your paper. This should include a revised bibliography and drafts or descriptions of as many of the visual aids as you can identify in advance of writing the paper. Submit the outline itself, along with supporting materials, to your sponsor in time to review and discuss it before you turn the signed form in to the

coordinator.

Practice talks:

To help you prepare for your oral presentation, you will prepare and deliver a five-minute practice presentation (see schedule for dates). The topic will be "what I like about biology" -- it can be a talk about a topic you find particularly interesting, about why you became a biology major, about your career goals as a biologist, etc.

You need do no special research for the talk, nor do you need to prepare visual aids. You should, instead, concentrate on developing a presentation with a logical, interesting structure and timing your presentation to fit within the prescribed time limits. You will also be required to answer questions at the end of your talk.

You will receive no grade for the talk, but failure to give a talk will result in a 20-point deduction from your final score for the course.

Nature of and limitations on topics:

Topics should be narrowly defined and treated in appropriate depth. For example, a report on cancer would be unacceptable; a report on a specific type of leukemia would, however, be appropriate. Do not overextend yourself with too broad a topic; remember that both your talk and your paper should include sufficient detail to be informative and interesting. Your research may be solely library based, or it may include laboratory or field research as approved by your faculty sponsor. You may not use papers or presentations from other classes for this course.

Oral presentation:

The audience for your oral presentation is your fellow students. As you prepare the talk, bear in mind that, although all your classmates are biology majors, they are likely to vary widely in their areas of interest and expertise. Be sure that the level of the talk is appropriate to this audience.

The oral presentation should last 12 minutes (ABSOLUTELY NO LONGER); you will have three minutes for questions from the audience. Your talk should be well organized, illustrated appropriately, and sufficiently detailed to inform and interest the audience.

You may illustrate your talk with overhead transparencies, PowerPoint slides, 35-mm slides, and/or video tapes, subject to the approval of the course coordinator. Use of video must also be approved by the faculty sponsor; no more than 1 minute of video may be used. You must let the

coordinator know at least a week in advance if you need a slide projector, data projector, or VCR. If you use PowerPoint, you may be required to provide your own laptop; check with the coordinator. If you use PowerPoint, you should be sure to have transparencies as a backup in case of equipment problems.

Some faculty members require that their students incorporate data from the primary literature into their talks. Check with your sponsor to be sure you know what his/her requirements are. You are not responsible for meeting the criteria of all faculty in attendance at your talk, only those of your own sponsor.

Written report:

The audience for your written report is your faculty sponsor -- a scientific professional with some expertise in the area of your topic. Be sure that the paper is written with the level of detail and sophistication appropriate to that audience.

Your report must be typed and double-spaced throughout (including tables, figure legends, and references), with pages sequentially numbered. Some faculty sponsors may request that lines also be numbered; if so, they will inform you well in advance of the paper deadline. The paper must be no less than 10 and no more than 15 pages long exclusive of tables, figures and references. The format should be that of a scientific journal in the appropriate discipline. Your faculty sponsor will guide you in selecting the appropriate journal format.

At least 10 of your library references must be to peer-reviewed primary sources (i.e., peer-reviewed, technical journal articles reporting the results of original research). Books, review articles, and other secondary sources may (and should) be used as well, but may not be substituted for the primary sources. Cite scientific references in the text and bibliography using the method appropriate to the format you are following.

You must submit your paper on or before the due date indicated in the syllabus. Your faculty sponsor will read and grade the paper. S/he will also make editorial comments and return the paper to you for revisions. You must submit the revisions on or before the date indicated on the syllabus. Note that the bulk of your grade is based on the original submission, not on the rewrite. That means that the original submission is **NOT** a "rough draft".

Seminar critiques:

To help you learn how to prepare and give oral presentations, you are required to attend and critique (using the forms provided) three technical seminars over the course of the semester. The Department of Biological Sciences sponsors a series of such seminars, held on Thursdays at 12:30 in MGB 101. A complete schedule of seminars will be made available as early as possible; announcements are also posted on the seminar bulletin board on the first floor of MGB. You must turn in your evaluations by 3:00 p.m. on the Friday following the seminar. Five points will be deducted for each calendar day after that. No critiques will be accepted after the last day of presentations.

Your grade on each critique will be based on the thoroughness with which you assess the quality of the presentation and on the quality of your writing (grammar, punctuation, spelling, organization). **YOU ARE NOT SUBMITTING A SUMMARY OF THE SEMINAR CONTENTS.** The oral presentation evaluation forms include a list of items you should address in your critique. To receive full credit, your critique must address each of the criteria on the sheet. For each criterion, you should provide (1) a brief description of what the speaker did or did not do (e.g., “made excellent eye contact with the entire audience”; “made eye contact only with the people in the first row”, etc.) and (2) your response, as an audience member, to what the speaker did nor did not do (e.g., “her constant eye contact kept me engaged”; “his lack of eye contact made it easy to become bored”, etc.). Finally, you should address how the speaker’s actions/characteristics affected his/her presentation as a whole.

Your comments should be written in complete sentences and grouped into logical, coherent paragraphs. Critiques must be typed (double-spaced) either on the back of the critique sheet or on a separate piece of paper stapled to the critique sheet. Although no specific length is required, a thorough and careful critique will generally require a full page, double-spaced; please do not write more than two pages. Be sure to fill out all information on the critique sheet.

You may e-mail critiques to the course coordinators if they permit it. Be sure to include a list of criteria and their numerical scores at the beginning of the e-mail message, along with the rest of the identifying information indicated on the critique sheets.

You may attend and critique more than three presentations if you wish; only the top three scores will be used to calculate your grade.

Sample critiques with instructor comments are included in this syllabus; use them to judge the quality of your work.

Evaluation and grading

Your overall grade will be based on the following assignment of points:

Biology seminar critiques: (3 @ 33 pts. each; coordinator)	100 pts.
Written report (faculty sponsor)	150
Revisions to written report (faculty sponsor)	50
<u>Oral presentation (all faculty in attendance)</u>	<u>200</u>
Total	500 pts.

Letter grades will be assigned according to the following scale:

90.0 - 100% = A
80.0 - 89.9% = B
70.0 - 79.9% = C
60.0 - 69.9% = D
Below 59.9% = F

No extra credit will be available. If, at the end of the semester, your grade falls on a grade borderline (within a few points), the coordinator reserves the right to take effort, participation, and improvement into account when determining your final grade.

Plus/minus grades may be used at the coordinator's discretion, but will not result in a lower grade than indicated by the scale above (a 90% will result in an A, not an A-, e.g.).

Faculty sponsor and student responsibilities

A list of faculty and their research interests is included at the end of the syllabus. You must contact one faculty member and have him/her agree to sponsor you by having him/her fill out and sign the information sheet. You will not be scheduled for a presentation until this form has been completed, signed and returned to the course coordinator. Be sure to include all requested contact information for your sponsor.

Your faculty sponsor is responsible for providing guidance in selecting the research topic; reviewing the bibliography, talk outline, drafts of the presentation graphics, and paper outline and making written comments; reading and critiquing the paper and returning it to you by the date specified; attending and grading the oral presentation if possible (along with the course

coordinator and other faculty in attendance); grading your rewritten paper; and turning that grade in to the course coordinator.

You are responsible for initiating communication with your sponsor, notifying your sponsor of deadlines and due dates, and submitting all signed forms to the course coordinator on time. That means being sure your sponsor gets the materials far enough in advance to review, critique, and discuss them with you before the deadline.

Failure to communicate adequately with your faculty sponsor can lead to problems that are otherwise easily avoided. Consider, therefore, asking your sponsor the following questions at the outset of the semester:

1. What format should you follow for the written report, and what criteria will the sponsor use in evaluating it?
2. Is the faculty sponsor willing to listen to a practice presentation? If so, how far in advance do you need to schedule?
3. How will you handle ongoing communications, especially involving preparatory materials? That is, how far in advance should you turn in your bibliography and talk outline? When and where should you pick up signed forms? When will your sponsor be able to discuss your project with you?
4. How should you contact your sponsor if you need help? How often, and for how long, will your sponsor be available for consultations?

Tips for technical writing

Structure and format: The details of structure and format will vary depending on the journal style your sponsor wishes you to emulate. Whichever style that is, be sure you understand the requirements and follow them precisely. The following guidelines should apply to most, if not all, papers.

Mechanics:

- T Double space everything.
- T Leave 1" margins on all sides of the paper.
- T Use a clean, simple 12-point font.
- T Ask your sponsor whether you should use underlining or italics.
- T Do not hyphenate words at the ends of lines.
- T Ask your sponsor whether you should include figures and tables in the text or as separate pages at the end of the paper. If the latter, indicate the recommended position of tables and figures with written marginal notes (e.g., "figure 1 about here").
- T Proof your work one last time before turning it in; make neat corrections by hand if necessary rather than leaving mistakes in place.

Components of the paper and sequence:

- T Title page** (if any -- check with sponsor)

- T Abstract** (required): this is a short (usually a paragraph) summarizing the major points of your paper.

- T Introduction:** you should have a paragraph or two that introduces your topic, explains its relevance/importance, and provides an overview of your paper. A good introduction will get the reader interested in your topic and help your reader follow the organization and flow of the ideas you present.

- T Main body:** this is the “meat” of the paper; you should organize it carefully and use section headings as appropriate to help the reader follow your organization.

- T Acknowledgments** (if any): here you should mention any individuals who provided special assistance in the preparation of your paper.

- T Literature cited:** an alphabetical listing by author of all the sources cited in your paper. Journals (and faculty sponsors) differ in their preferred styles; be sure you know which one your sponsor prefers and how it works.

- T Tables** : unless your tables are incorporated directly into the text, they should be presented sequentially on separate pages. Each table should be complete, including title, legends, footnotes (if any), etc.

- T List of figure legends** : unless your figures are incorporated directly into the text, you will need to separate the legends from the figures themselves. Type (double-space) legends sequentially, fitting as many on a page as will fit and using as many pages as necessary.

- T Figures** should be presented in order after the legends; only one figure per page should be included, with no extraneous text (like legends).

Writing basics: See the reference materials for more information on good and bad technical writing. Remember that good scientific writing still means observing the rules of grammar, spelling, and punctuation.

Matters of style:

- T** Good technical writing is clear, concise, precise, and thorough. Do

not waste words.

T Technical terms can help with clarity, conciseness, and precision -- as long as the terms are appropriate for your target audience and used correctly. Otherwise, they're confusing and annoying at best, embarrassing at worst.

T Use the active voice rather than the passive:

Do not write	Do write
Experiments were performed by Smith and Jones to determine . . .	Smith and Jones performed experiments to determine . . .
Small mammals were sampled during the spring and summer . .	(The investigators) sampled small mammals during the spring and summer
It was found that . . . ,	(The investigators) found that . . .

T Avoid empty phrases; be especially careful to avoid these common ones: "It has long been known that . . . It has been found that . . .It is believed that . . ."

T Keep your writing interesting by varying sentence length, citation style, etc.; bear in mind, though, that short, boring, grammatically correct sentences are better than long, elaborate, grammatically incorrect sentences.

Important technical elements:

T Every fact in your paper other than those you provide yourself must be referenced to one or more sources included in your bibliography. Otherwise, you're guilty of plagiarism.

T Even if you cite all your sources, simply stringing together long passages from your references is unacceptable. You must demonstrate your ability to synthesize the information you've gathered.

T Use direct quotes sparingly, if at all. Be sure they're cited correctly.

T Check your citation style to be sure it's correct. Two constructions are acceptable for author-year citation styles. You may place the full citation (author and year) at the end of the sentence in parentheses :

“White-footed mice are important granivores in eastern deciduous forests (Jones, 1982).” Alternatively, you may include the author’s name as part of the sentence with the year in parentheses immediately following: “According to Jones (1982), white-footed mice are important granivores in eastern deciduous forests.”

- T Multiple citations are not only appropriate, but often very important. List multiple citations alphabetically by first author, separated by semicolons: “Kangaroo rat communities generally consist of three or four species (Brown, 1975; Findley, 1982; Rosenzweig and Patterson, 1978).”
- T Be aware of, and carefully follow, the relevant conventions. These include, but are not limited to
 - T correct units of measurement and their abbreviations.
 - T the correct use of scientific names.
 - T the correct use of numerals vs. written numbers.
 - T the format for citations in the text and bibliography.

Rewriting:

- T Before giving your draft paper to your sponsor, be sure to read it carefully and rewrite portions which need improvement. Consider trading papers with another student and proofing each other's paper. Ask the person reading your paper to identify sentences which they had to read twice to understand. With rewriting, you can explain yourself more clearly.
- T If a section of your paper is difficult to follow, you may have many different points mixed together in a sequence which does not flow logically. You should:
 - T Create a list of the main points that you want to make in that section.
 - T Organize them in point form in a logical sequence in which one builds on what came previously. Then restructure your text so it follows this sequence.
- T Write topic sentences that state the key issue for each point succinctly and without jargon.
- T Flesh out each paragraph with a carefully constructed sequence of sentences that builds the argument you want to make.
- T Make sure that there is adequate conceptual 'glue' between

paragraphs and major sections. Lead the reader along so there are no surprising jumps in subject. The reader should anticipate your next subject before you get there.

- T Take seriously suggestions to improve your paper. Everyone can improve! (*Modified from Lertzman, Ken. Notes on Writing Papers and Theses. Bulletin of the Ecological Society of America, June, 1995.*)

Tables and figures:

T Tables and figures are excellent ways to convey large amounts of information. Remember, though, that they are much more expensive to print than are words -- so always ask yourself whether or not a table or figure is necessary. As a basic rule, if you can convey the entirety of the information in a sentence or two, you probably don't need the table or figure.

T If the table/figure is necessary, make sure it conveys as much relevant information as possible. Study examples from your journal articles and read the guidelines in the reference materials. Some general points to remember are:

- T Do not use tables or figures simply to convey raw data; if raw data are necessary, include them in an appendix.
- T Do use tables or figures to summarize the results of analyses and/or to illustrate patterns and processes.
- T Titles (tables) and legends (figures) should be completely self-contained, including units of measurements, definitions for all abbreviations, and a complete explanation of the contents. Readers should be able to interpret a figure or table without reference to the text.
- T Don't forget to cite sources for data or other information contained in tables and figures.

Tips for oral presentation I: the talk

Posture/appearance: look professional; don't let your appearance detract from your presentation.

- T Dress appropriately for the audience. Meeting the audience's expectations will help you make a good impression; find out what those expectations are ahead of time.

- T Avoid distracting items of clothing, jewelry, makeup, etc. When in doubt, go with the more conservative option.

- T Stand straight, keep your head up, and smile! This conveys confidence and enthusiasm, both of which audiences like.

- T Don't hold your hands behind your back or cross your arms. The former implies that you have something to hide; the latter conveys either aggression or fear.

Delivery: enhance the message with your confidence and enthusiasm.

- T Establish and maintain eye contact with every member of the audience. This will help audience members stay interested and engaged.

- T Keep the pace lively, but not too fast. Too slow is boring; too fast is inconsiderate. Be audible, but don't shout.

- T Vary your tone of voice to convey your own interest and enthusiasm and to keep your audience awake.

- T Use appropriate gestures to engage the audience and emphasize key points; avoid nervous gestures that distract the audience and emphasize your discomfort. If necessary, find a substitute (e.g., holding a pen rather than fidgeting with hair; play with an eraser in your pocket rather than jingling keys).

Speech content: help the audience get the most out of your presentation.

- T Have a clear introduction and statement of purpose early in the presentation. These should let the audience know why the topic is important and interesting as well as providing a general overview of the talk. The former gives the audience a reason to care and pay attention; the latter will help the audience follow the flow of your ideas.

- T Be sure your talk is well organized and flows logically from one topic

to the next.

- T Use visual aids to help your audience keep track of where you are and where you're going.
- T Keep the level of the talk appropriate for the audience. Know what level of understanding and background knowledge to expect. If you exceed that level, audience members will get bored and irritated; if you "talk down" they'll lose interest.
- T Don't try to cover too much; select a few main points and treat them in depth rather than skimming the surface of, or rushing through, many points.
- T Include a summary and conclusions at the end to show the audience how all the pieces fit together and to reiterate your main take-home message. A good summary/conclusion will keep the audience thinking about your talk long after it's over.
- T End with "thank you" so the audience knows you're done.
- T Don't apologize unless you really blow it.

Helpful hints:

- T Practice, practice, practice, preferably with a live audience.
- T Have a moderately detailed outline of the talk handy just in case you need notes; don't use note cards and don't read.
- T Don't write and memorize your talk; written language and spoken language work differently, and it's hard for audience members to follow the kinds of long, intricate sentences most of us write. Instead, use a conversational style.
- T Watch your timing -- don't make the coordinator cut you off.
- T Know correct pronunciations for all terms.

Tips for oral presentation II: visual aids

Visual aids are used to enhance and complement your talk, not to duplicate everything you say. Remember that audience members will be simultaneously watching the screen and listening to you; make sure that what you say and what you display work together. With the computers available to you on campus, you should have no problem designing good text-based figures; even if you don't have access to graphics software, play around with Xerox-cut-paste-and-color techniques for graphs, diagrams, and other kinds of illustrations. Be creative!

Purpose: visual aids should help you

- T maintain the audience's interest;
- T keep the audience on track;
- T highlight and emphasize key points;
- T illustrate and clarify objects and ideas;
- T explain complex processes.

General design elements: make it look professional, not "quick and dirty".

- T Keep the style (type face, borders, backgrounds, etc.) consistent.
- T Use a simple, clear font.
- T Use high-contrast colors (dark on light for overheads; light on dark for slides and PowerPoint).
- T Keep graphics and text as large as possible.
- T Use color for emphasis, but sparingly and tastefully. Use colors that will show up on the figures.
- T If you use PowerPoint or other digital presentation packages, keep animations simple and, sounds to a minimum.
- T Never just Xerox or scan and "go" -- always ask if the figure could be improved.

General guidelines for use:

- T Display only two or three figures per minute (less if the figures are complex); more than that is too fast for the audience to absorb, unless the graphics are very simple.
- T Display each figure only while you're discussing it; leave the screen blank if necessary in between figures.
- T Don't read the contents of visuals -- explain their content instead.
- T If you need to use the same figure more than once, duplicate it rather than trying to backtrack through used figures to find it.
- T Practice using your visual aids!

Text-based figures: tables, lists, outlines can be extremely effective -- use

them!

- T Tables should have no more than about 4x4 cells of information.
- T Lists and outlines should be no longer than about 12 lines, nicely spaced.
- T Mixed upper- and lower-case print is easier to read than all upper-case.
- T Display key information only; full titles and complete sentences are not necessary (you'll supply much of that information yourself).
- T Use color as appropriate to highlight text, but don't overdo it.

Graphic figures: graphs, diagrams, and other illustrations are worth a thousand words

- T Limit the amount of information on each figure; a few simple figures are generally better than one complex one (note that this is the opposite of the rule for figures in papers).
- T Display key information only; complete legends, etc. are unnecessary.
- T Check the size and legibility of everything before you use it.
- T Use color to highlight important information.

Sample seminar critiques

All sample critiques are based on the same presentation.

These are good critiques. Each addresses many of the criteria for evaluation, gives specific descriptions of the characteristics of the presentation, and clearly describes how those characteristics affected the evaluator's perception of the speaker and the presentation as a whole. Each is also well organized and clearly written. Note that full credit will only be given if every criterion is addressed.

(1) "My first impression of Dr. X was not very good. He had a dress shirt on, but the sleeves were rolled up, the top button was undone and he didn't wear a tie. Therefore he didn't have a professional appearance. However, I was impressed by the end of his presentation. His speaking style was laid back and comfortable and fit his appearance. His presentation was well-organized and interesting. He kept good eye contact with the audience, and never looked down to read information. I feel he obviously prepared very well for this presentation and it appeared that he has done this many times before. A few well-placed humorous remarks kept the presentation interesting, and did not distract from the material because they were relevant to what he was talking about.

His overheads were very clear and were only used while they were being talked about. They were all easily seen, and some of the charts or graphs that seemed a little difficult at first were easy to understand because he did a good job of explaining them. His speech followed the statement of purpose clearly, and was very relevant and well-organized. The overheads and the well-organized speech made me believe he was very well prepared and took pride in his presentation. He fielded questions very well, which indicated his knowledge of the subject matter. I was impressed by the enthusiasm he had and the clarity of the speech and his preparedness for the presentation."

(2) "Delivery & Enthusiasm: Dr. X received a rating in the 3-4 range for this because I feel that he knew the material but did not have a strong and exciting way to share the material. He spoke in a monotone without any sort of "peaking" or changing in his voice. However his accent was an added touch. He did manage to get a few laughs in here and there from the audience.

Eye contact, posture & gestures: He did very well maintaining eye contact with the audience and frequently scanned the entire room. At least letting us know that he was aware of our presence (He spoke directly to us only sometimes looking back to check his visual). I noticed a couple of times he got too relaxed while giving his speech and began to slouch on the podium and he even propped up one of his legs on the stage a couple of times. He used very few gestures. Usually at least one hand was occupied with handling the remote for slide projector.

Answering questions, speech content, statement of purpose: He did very well in these areas. I was very impressed that he didn't even use notes. Again this showed how well he knew the material and how comfortable he was with it. He told us flat out what he was going to be discussing specifically and that was it. To me this is what a statement of purpose should be.

Visual aids: Overall effectiveness of visual aids was good. A couple of the visuals were not easily seen and somewhat difficult to understand. However they were all relevant to what he was talking about and he only displayed the visual that he was lecturing on, which was very good in helping us keep focus.”

This is a mediocre evaluation. Although the reviewer addressed many of the criteria and provided good detail on most, s/he did not explain how the characteristics identified affected audience members or their response to the presentation as a whole. The organization is good; the use of sentence fragments to summarize the characteristics of the talk is acceptable as long as a properly written summary discussion is also included.

" Delivery: He was very good in delivering his topics. Even though I was not really interested in his topic he made me laugh and become interested.
Enthusiasm: he show his enthusiasm through making comments & jokes about the topic.
Eye contact: hard to see where his eyes were but he faced in the audiences direction.
Posture/appearance: Not good appearance: Sleeves on his dress shirt were rolled up. His top 3 buttons were not buttoned. He did not have on a tie.
Gesture: good, he used the pointer & hands.
Content: Very detailed, seemed like he observed the animals for a long period of time.
Visual Aids: Neat; bright & contrasting colors; graphs & charts very easy to understand

This is a poor critique. It addresses few criteria and is vague on some of what it does address.

“Not well dressed but that didn’t distract too much. He was very soft spoken I had little trouble hearing but those in the back may have had difficulty. He leaned on the podium too much. However appearances aside, his talk was very informative. He had a firm grasp of a very fascinating subject. And cracked an occasional joke which were well received. Many people were commenting on the subject afterwards; a sign of a stimulating seminar.”

PowerPoint tutorial materials

Use this outline and the figures provided on the website to practice developing PowerPoint presentations

1. The respiratory organ of fish is the gill, a highly vascularized evaginated pouch originating off the pharynx
 - A. Basic structure
 - a. gill arch = cartilaginous or bony rod (gill bar) or sheet (gill septum) running perpendicular to long axis of body
 - b. arch contains two blood vessels
 - c. the afferent artery carries deoxygenated blood from heart (via the ventral aorta) to gills
 - d. the efferent artery carries oxygenated blood from gills to rest of body via the dorsal aorta
 - e. arch supports delicate gill filaments consisting of
 1. primary lamellae extend from gill arches at right angles; contain branches of afferent and efferent arteries
 2. secondary lamellae run perpendicular to primary lamellae; contain capillary beds where majority of gas exchange actually takes place
 3. capillaries in secondary lamellae are extremely thin-walled -- the blood/water barrier is only ~ 1 micrometer thick!
 - B. Important functional features of gills:
 - a. arrangement of primary, secondary lamellae provides huge surface area for gas exchange (and huge SA for heat loss from blood . . .)
 - b. thin-walled capillaries minimize distance gasses must diffuse, increasing diffusion rate
 - c. unidirectional ventilation of water + unidirectional blood flow permits countercurrent gas exchange:
 1. maintains a favorable diffusion gradient across entire gill surface
 2. maximizes the amount of oxygen that can be pulled from the water moving across the gills
 3. Gill structure (and consequently function) varies among species, depending on oxygen demands and lifestyles:

activity level	species	O ₂ consumption (ml O ₂ /g*h)	# 2' lamellae per mm ² of 1' lamellae	gill area (mm ² /g body mass)	O ₂ capacity (ml O ₂ /100 ml blood)
high	mackerel	0.73	31	1160	14.8
low	toadfish	0.11	11	197	6

- C. Survey of gill types
 - a. lampreys: pouched gills
 - 1. gills arranged over both surfaces of gill pouch
 - 2. ridges of epithelium = gas exchange surface
 - 3. relatively small openings = pores to pharynx and to water
 - b. Elasmobranchs: septal gills
 - 1. large gill pouches with relatively large opening to pharynx
 - 2. external opening = gill slit; one gill slit per gill arch
 - 3. gill filaments supported by cartilaginous, plate-like septa
 - c. Osteichthyes: opercular gills
 - 1. single large gill pouch contains all gills
 - 2. single opening exteriorly covered by moveable, bony operculum
 - 3. septa are reduced to bars supporting filaments

(note: use www.lions.odu.edu/~kkkilburn/bio405/image_samples.htm as source of images to practice with)

Biology faculty and their research interests

<u>NAME</u>	<u>LOCATION</u>	<u>PHONE</u> (683)	<u>E-MAIL</u> (@odu.edu)	<u>AREAS OF INTEREST</u>
Dr. M. Butler	MGB 302K	3609	mbutler	Quantitative ecology, marine and freshwater ecology
Dr. K. Carpenter	MGB 302L	4197	kcarpent	Ichthyology
Dr. K.A. Carson	MGB 106C	4737	kcarson	Electron microscopy, neuroanatomy ,neurocytology, cytochemistry
Dr. D.M. Dauer	Benthic lab (1528 W. 48th St.)	4709	ddauer	Marine ecology, invertebrate zoology
Dr. F.P. Day	MGB 308	4198	fday	Plant, terrestrial, systems, wetlands, barrier island ecology
Mr. B. Dyer	MGB 202E	3604	bdyer	Marine microbiology, toxic marine algae (<i>Pfiesteria</i>)
Dr. A.S. Gordon	MGB 110B	3594	agordon	Marine microbial ecology, general microbiology, bacteria
*Dr. B. Hargrave	MGB 202J	5867	bhargrav	Fetal physiology and endocrinology
Dr. J.R. Holsinger	MGB 306	3606	jholsing	Systematics, evolutionary biology and biogeography of groundwater crustaceans
Dr. W. Hynes	MGB 202F	3613	whynes	Microbiology
Dr. C.M. Jones	AMRL	4497	jones@	Fisheries sciences and population ecology
Dr. K.S. Kilburn	MGB 302A	5680	kkilburn	Evolution, ecology, behavior, of vertebrates, especially small mammals
Dr. G.F. Levy	MGB 108E	4192	glevy	Plant and terrestrial ecology
Dr. H.G. Marshall	MGB 108B	4202	hmarshal	Marine ecology, marine and freshwater phytoplankton

Dr. L.J. Musselman	MGB 302F	3610	lmusselm	Parasitic plants of the semi-arid tropics, vascular plant systematics
Dr. K.K. Nesius	MGB 108C	4193	knesius	Plant physiology, plant tissue culture
Dr. C. Osgood	MGB 202M	3605	cosgood	Molecular genetics, gene regulation, mutagenesis
Dr. R. Ratzlaff	MGB 202G	4361	rratzlaff	Immunology, Lyme disease
Dr. W.F. Resetarits	MGB 302G	3763	wresetar	Aquatic Ecology, community and population ecology, Amphibians
Dr. R.K. Rose	MGB 310	4202	brose	Vertebrate ecology, mammalogy
Dr. A.H. Savitzky	MGB 302H	4203	asavitzk	Evolutionary biology, herpetology
Dr. J.E. Slate	MGB 204	3603	jslate	Aquatic Ecology, Algal Ecology, Paleoecology
Dr. D.E. Sonenshine	MGB 202A	3612	dsonensh	Parasitology, acarology, medical entomology, radiobiology
*Dr. R. Stevens	MGB 302P	4275	rstevens	Reproductive biology, human physiology, cellular physiology, animal physiology
Dr. R.J. Swanson	MGB 302J	3614	jswanson	Endocrine and reproductive physiology
Ms. N.L. Wade	MGB 108D	3615	nwade	Curricular innovation in general biology
Dr. D. Waller	MGB 302B	3601	dwaller	Termite ecology, entomology, nutritional ecology
Dr. L. Wolfinbarger	MGB 202D	3617	lwolfinb	Cancer cell biochemistry, human tissue processing, cryopreservation, cardiovascular tissues, bone tissues, tissue culture, biotechnology

*unavailable to sponsor students this semester

Biology 405
Faculty sponsor and topic sheet

Fill in all information before obtaining a signature of your selected faculty advisor. Turn this form in to the course coordinator by the date specified on the syllabus.

Section (T R F)

Your Name: _____ SSN: _____

Phone: (H) _____ (W) _____

E-mail: _____

Seminar
topic: _____

Name of Faculty Advisor
(print): _____

Department, phone, e-
mail: _____

Signature of Faculty
Advisor: _____

If making up an incomplete, please indicate the semester and call # for that semester so that ODU Records can get the correct information.

Previous semester/yr: _____ Call Number: _____

If you have a preference for your oral presentation, the course coordinator will try to accommodate you:

early in semester _____ late _____ no
preference _____

If you know of dates when your faculty sponsor will be unavailable, please indicate:

Biology 405
Bibliography Form

NAME:

SECTION (T R F)

Title of seminar:

Faculty sponsor (printed):

Faculty sponsor signature:

Date:

Bibliography:

(Use this space or attach separate sheets -- remember that at least 10 of your references must be from the primary literature)

Biology 405
Talk outline form

NAME:

SECTION (T R F)

Title:

Advisor's name (printed):

Advisor's name (signature):

Date:

Outline

(Use this space or attach separate sheets. Don't forget drafts of graphics)

Biology 405
Paper outline form

NAME:

SECTION (T R F)

Title:

Advisor's name (printed):

Advisor's name (signature):

Date:

Outline

(Use this space or attach separate sheets. Don't forget drafts of graphics)

Biology 405 - Biology Seminar
 Oral presentation evaluation form

Student name:

Topic:

Speaker's name:

Section (T R F) Date:

Criterion	1	2	3	4	5	Criterion	1	2	3	4	5
Posture/Appearance						Ability to answer questions					
Delivery						Visual Aids					
*Eye Contact						*Adequate number					
*Voice and pacing						*Relevant					
*Enthusiasm						*Seen easily					
*Gestures						*Displayed only when used					
Speech content						*Simple and clear					
*Introduction/Statement of purpose											
*Organization and flow											
*Level appropriate for audience											
*Summary/conclusions											

Key: 1 = poor; 2 = fair; 3 = average; 4 = good; 5 = excellent

Overall numerical grade:

Comments:

Biology 405 - Biology Seminar
 Oral presentation evaluation form

Student name:

Topic:

Speaker's name:

Section (T R F) Date:

Criterion	1	2	3	4	5	Criterion	1	2	3	4	5
Posture/Appearance						Ability to answer questions					
Delivery						Visual Aids					
*Eye Contact						*Adequate number					
*Voice and pacing						*Relevant					
*Enthusiasm						*Seen easily					
*Gestures						*Displayed only when used					
Speech content						*Simple and clear					
*Introduction/Statement of purpose											
*Organization and flow											
*Level appropriate for audience											
*Summary/conclusions											

Key: 1 = poor; 2 = fair; 3 = average; 4 = good; 5 = excellent

Overall numerical grade:

Comments:

Biology 405 - Biology Seminar
 Oral presentation evaluation form

Student name:

Topic:

Speaker's name:

Section (T R F) Date:

Criterion	1	2	3	4	5	Criterion	1	2	3	4	5
Posture/Appearance						Ability to answer questions					
Delivery						Visual Aids					
*Eye Contact						*Adequate number					
*Voice and pacing						*Relevant					
*Enthusiasm						*Seen easily					
*Gestures						*Displayed only when used					
Speech content						*Simple and clear					
*Introduction/Statement of purpose											
*Organization and flow											
*Level appropriate for audience											
*Summary/conclusions											

Key: 1 = poor; 2 = fair; 3 = average; 4 = good; 5 = excellent

Overall numerical grade:

Comments:

Biology 405 - Biology Seminar
 Oral presentation evaluation form

Student name:

Topic:

Speaker's name:

Section (T R F) Date:

Criterion	1	2	3	4	5	Criterion	1	2	3	4	5
Posture/Appearance						Ability to answer questions					
Delivery						Visual Aids					
*Eye Contact						*Adequate number					
*Voice and pacing						*Relevant					
*Enthusiasm						*Seen easily					
*Gestures						*Displayed only when used					
Speech content						*Simple and clear					
*Introduction/Statement of purpose											
*Organization and flow											
*Level appropriate for audience											
*Summary/conclusions											

Key: 1 = poor; 2 = fair; 3 = average; 4 = good; 5 = excellent

Overall numerical grade:

Comments: