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(Note: I have appointment sign-up sheets outside my office door, rather than fixed office hours)

Syllabus: Biology 490/01 Senior Seminar: Topics in Human Physiology, 2 cr., Fall 2016
Fridays, 10:00-11:50 am, TNR 461

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OBJECTIVES FOR THE COURSE:

This seminar should be the *culmination* of a senior's education at Stevens Point. ***It should demonstrate that he or she can do library research and integrate material on current topics in Physiology from many sources and present it in a brief talk in a concise, meaningful manner.*** The course will be divided in two parts: (1) RESEARCH SEMINAR: a formal 40-minute group presentation to the class with a pre-talk rehearsal, summary paper and poster and (2) JOB SEARCH: a CV and cover letter for a BS-level job in Physiology with a mock interview. The audience for the talk is meant to be *students like you* who are well versed in general biology, have had Human or Animal Physiology, but who do not have graduate/specialist training. Using their science background and the specific material presented by the speaker on his/her particular topic, all students should be able to understand and actively participate in discussions of student seminars. The CV and interview is to prepare you for a real job application and interview when you leave the UWSP and apply for a job, grad school or professional program).

SEMINAR EVALUATION AND FINAL GRADE:

The final grade consists of: a total of **270** points:

Trio seminar handout + outline + reference abstracts + seminar abstract @ **30** pts,

Trio seminar presentation @ **140** pts [Seminar Evaluation Form on p. 8]

Trio poster @ **30** pts

Personal CV, cover letter, PI information = **40** pts

Personal mock interview + questions for PI = **10** pts

Personal class participation (attendance, questions asked, discussion) = **20** pts,

PENALTIES: 10 points will be deducted for each unexcused absence, 5 points for each missed deadline.

Required Senior Exit Exam. Satisfactory completion of this 490 course **requires** the completion of the Biology Department's **Assessment of Biological Knowledge** ("ABK") exam (about 60 min). This exam gives us an idea of how much Biology you have learned while attending UW-Stevens Point and is important to our curricular planning. Your performance on the **ABK** exam does not influence your grade in BIO 490, but your seminar grade will not be posted until the **ABK** is completed. The exam will be offered at the following times: **Tuesday, Dec 6 1, 6:00 pm in TNR 170 OR Wednesday, Dec. 7, 6:00 pm, in TNR 170.** (Dates and room may change; I will announce them if they do.)

Student grievances are handled per the University of Wisconsin's administrative code, "**Student Academic Standards and Disciplinary Procedures,**" found at <http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf>.

CLASS SCHEDULE, ASSIGNMENTS & DEADLINES (TENTATIVE)

Friday, 9 September 2016	Introduction and how to pick a topic for a seminar; sample topics; choosing trios for seminars; choosing seminar dates.
Friday, 16 September 2016	Prep for seminars: how to read and critique a scientific journal article; topic choices due; PPT assignment (by email). ★ SEMINAR TOPICS DUE IN CLASS
Friday, 23 September 2016	How to read...etc. (cont.). Preparing PPT slides for seminars. Making posters with PPT.
TUESDAY, 27 September 2016	★ POWERPOINT ONLINE ASSIGNMENTS DUE
Friday, 30 September 2016	Sample seminar slides due. Seminar prep and slide critiques ★ SEMINAR OUTLINES AND 10 REFERENCES DUE IN CLASS
Friday, 7 October 2016	Practice run for 40-min seminars; all references and slides done; critiques
Friday, 14 October 2016	Practice run for 40-min seminars; all references and slides done; critiques
Friday, 21 October 2016	Final 40-min seminar presentations; evaluations
Friday, 28 October 2016	Final 40-min seminar presentations; evaluations. ★ MADISON JOB DESCRIPTIONS HANDED OUT FOR SELECTION.
Friday, 4 November 2016	Ins and outs of getting (a job) or (entrance to a post-grad program); how to read a job description; digging for details; how to write a resume and cover letter. ★ MADISON JOB SELECTIONS DUE IN CLASS.
Friday, 11 November 2016	★ DUE IN CLASS: 1. FIRST DRAFTS OF RESUMES AND COVER LETTERS; 2. WHAT YOU'VE DUG UP ABOUT THE PI; 3. INTERVIEWEE QUESTIONS FOR PI. Class critiques of both.

Friday, 18 November 2016	Class evaluations. Interviewing for a job; role-playing. ★DUE IN CLASS: 1. FINAL VERSIONS OF RESUMES AND COVER LETTERS, 2. PI INFORMATION SHEET, 3. SAMPLE INTERVIEWEE QUESTIONS.
TUESDAY, 22 November 2016	★POSTER SUMMARY DUE TUESDAY ONLINE, 4 PM.
Monday, 28 November 2016	Poster summaries prepared for printing in class.
Mon-Fri, 28 November-2 December 2016	POSTER PRINTING ★POSTER PRINTING BY ARRANGEMENT WITH S.S.
Friday, 2 December 2016	No class – scheduled one-on-one job interviews.
Friday, 9 December 2016	No class – scheduled one-on-one job interviews.

SUMMARY OF ASSIGNMENTS DUE

Friday, 9 September 2016	LOTTERY FOR TRIOS AND DATES IN CLASS
Friday, 16 September 2016	SEMINAR TOPICS DUE IN CLASS
	REVIEW OF A PAPER RELATED TO YOUR TOPIC
TUESDAY, 27 September 2016	POWERPOINT ASSIGNMENT DUE ONLINE, 4 PM
Friday, 30 September 2016	SEMINAR TOPIC OUTLINES AND 10 REFERENCES DUE IN CLASS
Friday, 7 October 2016	SEMINAR PRACTICE RUNS
Friday, 14 October 2016	SEMINAR PRACTICE RUNS
Friday, 21 October 2016	SEMINAR FINAL PRESENTATIONS
Friday, 28 October 2016	SEMINAR FINAL PRESENTATIONS; JOB DESCRIPTIONS HANDED OUT
Friday, 4 November 2016	MADISON JOB SELECTION DUE IN CLASS
Friday, 11 November 2016	FIRST DRAFTS OF RESUMES, COVER LETTERS, PI INFORMATION, INTERVIEWEE QUESTIONS FOR PI
Friday, 18 November 2016	FINAL VERSIONS OF RESUMES, COVER LETTERS, PI INFORMATION, INTERVIEWEE QUESTIONS FOR PI
TUESDAY, 22 November 2016	POSTER SUMMARIES DUE ON LINE, 4 PM.
Monday, 28 November 2016	POSTER SUMMARIES
Friday, 25 November 2016	THANKSGIVING, NO CLASS
Mon-Fri, 28 November-2 December 2016	POSTER PRINTING, BY ARRANGEMENT WITH S.S.
Friday, 2 December 2016	(NO CLASS) ONE-ON-ONE INTERVIEWS
Friday, 9 December 2016	(NO CLASS) ONE-ON-ONE INTERVIEWS

I. PREPARING RESEARCH SEMINARS:

Each group of 3 students will be required to present (a) **one 40-minute seminar** (with 5 min additional for comments & questions), each complete with (b) **handout** containing an **abstract of the talk, an outline, and a list of references**. There will be preliminary training and preparation sessions, and a rehearsal talk. The *graphics* for the presentation will be by **Powerpoint** video projection.

There will be two seminars per week, beginning the fourth week.

A. Required Preparation for Seminars, with deadlines:

1. **Friday, 16 September 2016:** **subjects for all talks are due; the topics must be approved by me.** It may be anything related to physiology, animal or human. Diseases, physiological systems, drug actions, unusual conditions are all fair game. Stay away from topics that do not yet have a well-defined physiological basis. Things like depression and schizophrenia are fascinating states, for example, but there is very little known about the biochemistry or physiology that causes them.
2. **Friday, 19 September 2014:** find a research paper related to your approved topic and answer the list of questions in the PPT on reading scientific paper. One analysis paper per group.
3. **TUESDAY, 27 September 2016: Powerpoint Assignment due** (material by email). Use the materials sent to you and some others to make a short PowerPoint presentation on:
 - Structure of insulin, OR
 - Insulin secretion, OR
 - Biosynthesis of insulin and the pancreatic beta cell

Your PowerPoint should include at least **3 text slides** with **outline topics** as well as **6 graphics**. The graphics can be separate from the text slides or included with them.

Look on the internet for at least **3 new graphics** related to your topic. A good place to start for information and a few graphics -- *PubMed Plus* (find it with *google.com*), "*diabetes*". Plug in the graphics and type in a legend for each. Also, **Google.com** has an **image library**. Look at the top of the Google page and click on the "**Images**" tab above the blank query box.

Save your PowerPoint to your Student Info drive (**myfiles.uwsp.edu/[your logon name]**, H:\) and email it to me. Your **myfiles** drive is available anywhere in the world on the internet; just remember to use the slash and your logon name after the <https://myfiles.uwsp.edu>

(Example: <https://myfiles.uwsp.edu/sogon245>)

4. **Friday, 30 September 2016:** the following are due
 - a. a list of at least **10 references**, including at least **two textbooks** and **four journal references with abstracts**. **Website references do not count in the required references.** [See, "**C. Resources Available for Preparing Seminars**" below.]. **I want to see the full-length articles at least a week before your seminar.** [See C.3.c, "Inter-library Loan..."]
 - b. a **detailed list of topics** that will be covered in lecture. They do not have to be in any order; just the **specific** topics that will be covered. This will require that you have read up on your topic. (Example: if your talk is on the diving reflex, the topic list would include: **brainstem respiratory pneumotoxic, inhalation and exhalation centers, and their control of the muscles of respiration; chemoreceptor nerves to the arterial bodies; diving-induced apneusis, physiological changes during diving; comparative**

diving responses among mammals, etc. A general list of statements ("introduction to diabetes" "role of insulin in diabetes" etc.) is not acceptable.

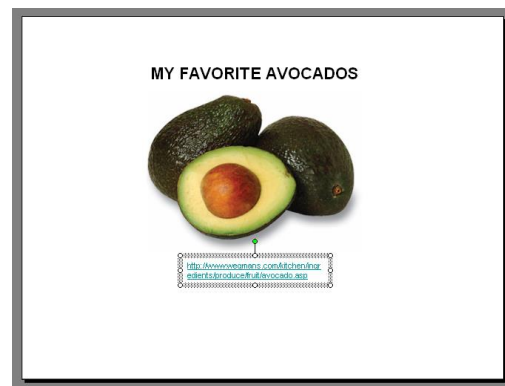
- c. [Four PPT slides from the seminar and one summary slide](#). (They can be changed as needed for the presentation.)
3. **Friday, 21 October 2016 or Friday, 28 October 2016:** At the time of your seminar, have **14 copies of a handout** for the class. The handout should contain
- a **short abstract** of your talk, one or two paragraphs.
 - the **talk outline** and
 - a **list of all references**. [See, "B. Resources Available for Preparing Seminars" below.]
 - Graphics and glossary may be useful but are not required in the handout.


B. Resources Available for Preparing Seminars

1. Audio-Visual Resources

A. **Computer-generated graphics (PowerPoint):** The seminars will be prepared with PowerPoint. You can also use the blackboard to make written points. PowerPoint requires some practice to be effective. We will practice using it in class. (See attached, "PREPARING POWERPOINT PRESENTATIONS: Instructions & an Exercise" .)

B. **Scanning images into PowerPoint:** all computer labs and the Media Lab are equipped with flat-bed scanners for copying illustrations from books and journals. The **JPG** or **JPEG** format is probably the best format to save images in for PowerPoint (files are smaller). **ALL IMAGES MUST BE ACCOMPANIED BY A REFERENCE TO ITS SOURCE.** (See bibliography formats below to see what to put in the text box below the image.)



C. **Importing images from the internet:** images used in web pages usually can be saved very simply, and used in PowerPoint or text form. Find the full-size image (not the thumbnail image), RIGHT-click on it, and choose, "**Save picture**" and put it in My Pictures in the My Documents folder. Use the "**Insert → Image from file**" to put into a slide or click on the  button. **Google Image** search is also handy. Pick "original size" and track it back to its original web page.

ALL IMAGES MUST BE ACCOMPANIED BY A REFERENCE TO ITS SOURCE. Example above: I left the text-box outline there to show you that you can squash it to fit underneath the graphic, instead of stretching out across the slide. It can also be in much smaller type than the rest of the slide, since it's just there for reference. If you are using **Google Images**, it will have the address written on the screen. RIGHT-click on it and choose "**Copy shortcut**" to get the address.

2. Text and Printing: Your outline and handouts should be done in Microsoft Word, so we can edit your material together or by email. Open-source software (HD Office, Star Office, etc.) can be a pain to open.

3. Sources of Information

a. **Libraries:** use **library texts** (we have an up-to-date collection of medical texts in every area of medicine), **CD ROM** or **Medline** sources for literature sources. The library reference librarian will show you how to do this. The **St. Michael's Hospital library** is another source of medical information. Books and journals can be copied but not removed from that library. Hours: 12-4 pm, M-F; call 346-5000 and check to be sure someone will be there when you would like to use the library. The **Marshfield Clinic Library** is a terrific resource without going to Madison; they have a well-organized on-line search system as well. Books and journals can be copied but not removed from library. Call the free clinic number (1-800-782-8581), and ask for the Library.

b. **Internet sources: Medline (PubMed) from the National Library of Medicine.** -- This is probably the best reference collection for topics related to Medicine and physiology. The web address:

<http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed>

It lists journal articles from 1980 and earlier to the present and includes abstracts of the articles as well. It covers several *thousand* biologically-related journals! Look for **review articles** for your background material. **Do not use single research articles on the subject; they are too narrow.** To look for review articles: the opening webpage contains the **search box**. In the example below, I put in "multiple sclerosis". This brings up all 46,709 journal articles in the database, most recent first. But I asked that you look up **REVIEW** articles. To select only review articles, click on "**Review**" in the upper right corner (red box below).

PubMed.gov Search: PubMed RSS Save search Limits Advanced search Help
multiple sclerosis Search Clear

Display Settings: Summary, 20 per page, Sorted by Recently Added Send to: Filter your results:
All (46709) Review (7932) Free Full Text (6690) Manage Filters

Results: 1 to 20 of 46709

1. Validation of the Fatigue Impact Scale in Hungarian patients with multiple sclerosis.
Losonczy E, Bencsik K, Rajda C, Lencsés G, Török M, Vécsei L.
Qual Life Res. 2010 Sep 24. [Epub ahead of print]
PMID: 20865452 [PubMed - as supplied by publisher]
Related citations

2. Demyelinating Disease in Patients Treated with TNF Antagonists in Rheumatology. Data from BIOBADASER, a Pharmacovigilance Database, and a Systematic Review.
Cruz Fernández-Espartero M, Pérez-Zafra B, Naranjo A, Esteban C, Ortiz AM, Gómez-Reino JJ, Carmona L; BIOBADASER Study Group.
Semin Arthritis Rheum. 2010 Sep 21. [Epub ahead of print]
PMID: 20864146 [PubMed - as supplied by publisher]
Related citations

Find related data Database: Select Find items Search details

Now you are looking at only the **reviews** related to multiple sclerosis, most recent first. Check the ones that seem relevant. (I've checked one below.)

NCBI Resources How To My NCBI Sign In
PubMed.gov Search: PubMed RSS Save search Limits Advanced search Help
multiple sclerosis Search Clear

Display Settings: Summary, 20 per page, Sorted by Recently Added Send to: Filter your results:
All (46709) Review (7932) Free Full Text (6690) Manage Filters

Results: 1 to 20 of 7932

1. Mechanisms of fatigue.
Davis MP, Walsh D.
J Support Oncol. 2010 Jul-Aug;8(4):164-74. Review.
PMID: 20822034 [PubMed - indexed for MEDLINE]
Related citations

2. Fatigue in multiple sclerosis: mechanisms, evaluation, and treatment.
Braley TJ, Chervin RD.
Sleep. 2010 Aug 1;33(8):1061-7. Review.
PMID: 20815187 [PubMed - indexed for MEDLINE]
Related citations

Find related data Database: Select Find items Search details

In PubMed, you can go from page to page, checking off review articles that you want. (You don't need to stop and save each page's choices.) To save all the chosen abstracts and journal information at one time, go to the bottom of the last page you checked

and click on the "Send to:" icon. [Send to:](#) You will get a menu of save options (see right). Under "Choose Destination", click "File". Under "Format" choose "Abstract (text)". Then click on "Create File" button. You will find the file in your "Downloads" folder. Rename it and move it to where you want.

Choose Destination

File Clipboard
 Collections E-mail
 Order My Bibliography
 Citation manager

Download 8 items.


Format

Sort by

c. **The National Institutes of Health, "Medline Plus" for disease information.** The NIH has excellent background patient material for most diseases at its **Medline Plus** site, as well as links to research areas for each:
<http://www.nlm.nih.gov/medlineplus/healthtopics.html> . Just click on the first letter of the disease at the top.

Free vs. fee-pay articles. As you go through your PubMed pages, you will see that some references are listed as "**Free PMC**" articles (right). You can download those in PDF form immediately at no charge. If it is not listed as free and the library does not carry the journal, use Interlibrary Loan (below).

inflammation in general.

PMCID: PMC2939884 **Free PMC Article**
 PMID: 20856809 [PubMed - in process]
[Related citations](#)


d. **Interlibrary Loan (UWSP Library).** For journals that the UWSP Library does not have, you will have to use the **UWSP InterLibrary Loan (ILL)** online service. Here is the **ILL** log-in site: <https://wisconsin.hosts.atlas-sys.com/nonshib/WIS/OpenURL>. The Library ILL website will tell you how to do this on-line. PDF's of Interlibrary Loan articles arrive electronically in about a week. You will get an email to tell you when they arrive. Give them a week to get the articles.

e. **Rental Texts:** Rental texts for courses in physiology, cell biology, anatomy, etc. are available from Text Rental after the first 2 weeks of class for no charge or a modest fee, depending on how many are rented.

f. **Merck Manual of Diagnosis and Therapy**, 19th ed., 2011, and later. If you are researching a medical condition or disease, the Merck Manual is a must-have reference. The LRC Reference Room has a copy. It has, in condensed form, information on thousands of diseases, their diagnosis, pathology, incidence, and the latest treatments.

g. **Me.** Talk to me. I have some medically-related texts that may also be appropriate. My appointment sheet is posted next to my office door. Weekly sheets are posted for the entire semester on opening day.

4. How to List References for the Handout.

- **BOOK:** Author(s), Initials. Year. "Title of article/chapter" in Title of Book, Nth edition (Name editor(s), ed.), Publisher, City, pages.

example: Johnson, J.J., and A.A. Milne. 1921. "The gall bladder" in Odd Organs, 16th ed. (M. Potts and S.S. Sott, eds.), Academic Press, N.Y., pp. 21-25.

- **JOURNAL:** Author(s), Init. Year. Title of article. Name of Journal. volume #: pages.

example: Johnson, J.J. and A.A. Milne. 1922. The gall of it all. Science 203: 161-166.

- **INTERNET:** Author(s), Init., Year. Title of web page (text/image/movie/animation; other relevant information²). Web page address (URL). (See, "ACKNOWLEDGEMENT TIP" above.)

example: Sullivan, J., [year unknown]. "White blood cells eating yeast" (movie, from "Cells Alive" CD-ROM). <http://www.bio.davidson.edu/misc/movies/WBC.mov>

Note: since websites and addresses constantly change, the more descriptive the information given, the better the chances of tracking the reference if the address changes.

D. Tips for Preparing and Giving Your Talk.

1. Preparation for talk.

- Begin early;* develop a list of pertinent literature. Literature cited from a recent paper on the subject is a good place to start. Take detailed notes for your abstracts. (See "Resources..." section below.)
- REMEMBER YOUR AUDIENCE** before you write: they are Seniors in Biology like you. Presume that they are familiar with the content of at least Biology 160, 385, 314, chemistry and pre-calculus math courses. They are *not* beginning freshmen, advanced graduate students or faculty members.
- Outline the seminar,* then write out and organize notes in a logical sequence.
- Use *visual aids* (tables, figures, etc.) to summarize data or present complex information. (See "Resources..." section below.) Some rules:
 - keep visuals simple and uncluttered; **do not put every word on the slide, just the main points.** The audience will not pay attention if your talk is simply reading slides.
 - use a separate visual for each point, if possible;
 - make visuals large enough to be read from the back of the room.
 - RULE OF THUMB:** No more than 1 visual every 2 min (10 slides in 20 min) unless they represent a sequence; use your own judgment as to how much your audience can take in.
- Rehearse the seminar several times** so you are thoroughly familiar with the information. Practice will minimize the use of notes and permit you to identify flaws and rough spots. Practice **out loud, in front of a mirror or in front of a group.** There is nothing like hearing yourself to know how it's going to sound. Include the visual aids, talk about them as if they were projected in front of you. Make sure your presentation *fits the allotted time.*
- Write your abstract *after preparation is complete.* Master the material before beginning to write the abstract.

3. Presentation of the Seminar to the Class (underlined items are common mistakes)

- Most speakers are *nervous* to some degree: rehearsals will lessen it.
- Speak *clearly and loudly* enough to be heard throughout the room.
- Do not read your talk to the audience;** use notes if you must, but **look at your audience.** You might write out the first and last paragraphs of your talk to help you over the nervousness.
- Practice getting rid of "*uh's*" "like" "you" and "*your*" ("You have like your pacemaker here") and "*OK?'s*" at the end of a sentence ("Then you go into cardiovascular shock, OK?")
- Explain** visuals and **point** to information as you describe it.
- Leave the visual on the screen until you have to change it;** this gives the audience more time to understand it.
- Think about using the **BLACKBOARD** to write down points (write large): this will help slow down your speaking.
- Tell the audience where you are and where you're going.** Refer the audience to the outline you have given them. *Example:* "So, now that we have discussed the causes of Hodgkin's lymphoma, I would like to talk about present-day treatments."
- Remain within the time-limit** (40 min total for seminar, followed by 10 min questions).
- Finish with **a summary statement** (and a **summary slide**, if appropriate).
- During the question period, **answer questions directly** and as simply as possible. If you do not know the answer, "**I don't know.**" is a perfectly good response.

SEMINAR PEER EVALUATION FORM, 140808

SPEAKER: _____ DATE: _____

TITLE OF TALK: _____

I. Preparation: outline, abstract & references for class, (total: 30 pts) _____

- a. Did outline and abstract have enough detail to provide a guide to the talk? _____
- b. Did outline and abstract include the *specialized terms* used in the talk? Were the *references* appropriate and up-to-date? comments: _____

II. Seminar Presentation (total: 140 pts):**1. organization (40 pts) _____**

- a. Did the talk follow the outline? comments: _____
- b. Was the talk arranged logically? _____

2. clarity of presentation (40 pts) _____

- a. Were the points made clearly? comments: _____
- b. Was the audience kept informed of what the speaker(s) had covered and where the speaker was going? comments: _____
- c. Did each speaker spend enough time on the "guts" of the talk so that you understood it more than superficially? comments: _____
- d. Did each speaker involve the audience (eye contact, questions of the audience)? _____
- e. Did each speaker appear to know the material well (modest or minimal use of notes, clear interpretation of graphics, relatively smooth presentation)? comments: _____

3. timing (10 pts) _____

The talk was supposed to have been 40 min long. Was it too long or too short? _____

4. visual aids (10 pts) _____

- a. Were the overheads, slides or other visuals *clear* and *relevant* to the talk? _____
- b. Did each speaker explain the graphics well (explained the axes of a graph, showed where to look for a detail mentioned, etc.)? _____
- c. Was the number of graphics OK (too many or too few)? _____

5. response to questions (20 pts) _____

Did their response to questions indicate each speaker was well-prepared, knew the material and resisted "snowing" the audience? comments: _____

6. Depth of coverage (20 pts) _____

- a. Was the *background* presented in the talk sufficient to prepare *seniors* for the rest of the seminar? comments: _____
- b. Was the level of the talk appropriate for senior-level Biology majors? (level too high, too low or appropriate?) comments: _____

Other factors: Class participation counts 20 pts; unexcused absences from seminars will be docked 10 pts each; unexcused late arrival will be docked 5 pts each.

II. CURRICULUM VITAE, JOB APPLICATION AND INTERVIEW.

I will hand out a job description for a BS-level job, listed on the UW jobs website. If you prefer, you may choose another job opening closer to your interests. You will have time to do some background research into the job to prepare for the interview. The full-dress mock interview will be about 10-15 min, with one or two people, followed by a 5 min evaluation of how you did.

A. WRITING RESUMES WITH COVER LETTERS

The Assignment: Students will be asked to write a resume of their academic and extracurricular activities and accomplishments, and a cover letter pertaining to a specific job listed at the end of this handout. In order that the cover letter be effective, it should indicate that you know something about what is required in the job, and what relevant experience you already have. It is also important that, if you are given the name of the person actually offering the job, that you know something about what research that they do. In this case, you will be given an actual job listing from the Madison jobs directory (See, "MADISON JOB LISTINGS..." below).

Due for the Friday, 4 November 2016 session:

- Make a listing of all the information required in the next section, "WRITING RESUMES..." (p. 9 of syllabus). This includes calculating your overall GPA (from your DPRReport) and your science GPA (Math, Bio, Physics, Chemistry), relevant coursework, work experience (paid or unpaid), relevant extracurricular activities, and honors. Read it carefully.
- Look up a job listing in Madison now. Directions are on p. 10 of the syllabus. You can use the sample job you were given in class or something that fits you better. To save the description, type "**ctrl-A**" which highlights everything, then "**ctrl-C**" which copies it. Go to Word, make a new page and type "**ctrl-V**" to paste it on to the page, then save it.
- I will also expect you to know something about the employer's work, and your ideas for working this into your letter. This may require some detective work to find out who the PI (principal investigator) is. One trick: In Google, type out a phrase that describes the work of the lab in the job description followed by a comma and "University of Wisconsin" (e.g., "thermo-aversion technique for mice, University of Wisconsin") and see if it points to a faculty member at Madison. Add a brief summary of the work of the PI to the job description above and one reference (usually found on their website). Print a copy for me.

The week following, we will have a session devoted to interviewing, and **mock interviews** will be held the last week of class, with interviews scheduled throughout the week. Interviews will be 15 minutes long, followed by an evaluation. "Tips for Interviewing" is included in this handout.

1. WRITING RESUMES FOR TECHNICAL POSITIONS

General Suggestions: The resume should be two pages *or less*. Wordy resumes will not be read. Put out front what you want them to know most about you. Minimize non-specific qualities. Phrases like "a real self-starter" or "excellent communication skills" should be left out in favor of facts that speak for themselves: "founded an undergraduate research club, *The Point Research Reporter*, with another student" or "established my own research project to isolate a plasmid from *Lysteria monocytogenes*," would demonstrate this more effectively.

The following entries should be in any resume:

CONTACT INFORMATION (name, home and school addresses, cell, email)

MAJOR(S)/MINOR(S) & GPA (overall/science)

PROFESSIONAL INTERESTS: tailor this in relation to job offering. If it is a stepping-stone to another career, mention it. (e.g.: "Lab technician as part of preparation for ultimate goal of ...")

RELEVANT COURSEWORK, LABS & TECHNIQUES. Include formal coursework and **techniques** covered in lab you think would be useful for this job (eg: Cell Biology [PAGE, cell culture, fluorescence microscopy], Microbiology [sterile technique, isolation/identification of unknowns], Plant Physiology [Warburg respirometry, photometry], Biochemistry [enzyme assays]).

UNDERGRADUATE RESEARCH: List independent-study or summer research projects, including your mentors, where you did the work (UWSP? Marshfield?) and how long you have been doing the project and any **presentations or publications**

RELEVANT WORK EXPERIENCE: include volunteer work if at all related (sometimes hospital volunteer work will be valuable to a lab doing clinical research), or the UWSP Winter Preceptorship. Even if not in science, a job you've had that entailed supervisory responsibility or a complex protocol may be considered relevant.

SPECIAL SKILLS. Computer/software proficiencies, data analysis experience, etc.

HONORS: include academic honors first, awards in other areas as well.

REFERENCES: include the names, titles, address and phone numbers of three (3) references, people that know you well enough academically and/or personally to give you a good recommendation

Include a brief **COVER LETTER** to the listed contact person: Let them know what you are applying for. (Something like, "I am applying for your position # _____ listed as..."). Indicate that you know a little about what the lab/research group or PI is doing and are interested in the project. ("I have read about your work in nonallergic triggers to asthma, and ...") Describe a little of your coursework and experience that you think fit well with the job that was posted. (For example: "I am very interested in this type of work and think that my coursework and lab experience in Microbiology will help me prepare to work in your lab. Please see the attached resume...") Finish with something to leave the door open for a later phone call, like, "I hope that we can discuss this further at your convenience."

2. THE TEST JOB YOU ARE APPLYING FOR

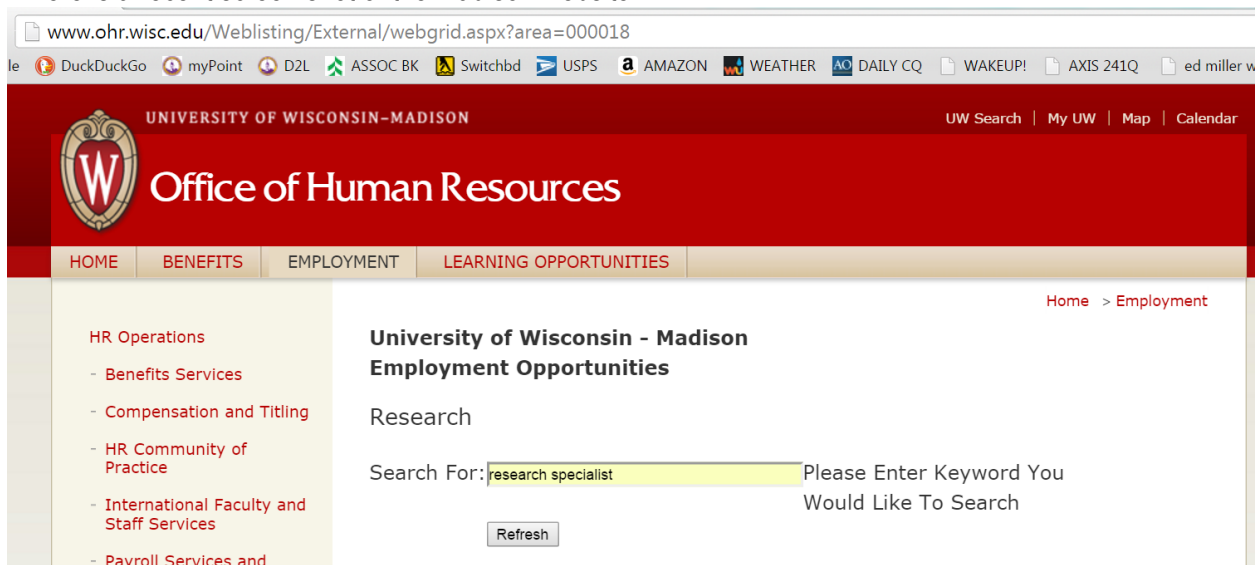
You will be receiving a set of *position numbers* for *Research Specialist* job listings from the UW Madison website. Follow the directions for "**Finding a Job in Madison...**" below. The positions are listed in numerical order on the website, with the latest (highest number) positions first. See if they have a website (almost all do) and look for where they describe their work's overall objectives. Look up some of their references in **PubMed**. Find out something about them and what their lab works on (not always clear from job description). If the PI (Principal Investigator) that is hiring for this job is not listed anywhere in the job description, **call the lab** and see who runs the lab.

Remember that their job "requirements" are often a wish list, and they will accept someone with the potential to fulfill their wishes. Look into your course background and see if there is something you can find that shows that potential.

**UW-MADISON & MCW (MILWAUKEE) JOB LISTINGS ON THE NETWORK
FOR B.S.-LEVEL BIOLOGY GRADUATES:
HOW TO GET THERE**

UW-MADISON -- The Madison job listings are on the network (the UW-Madison website, "Wisconsin"). To get to the *B.S.-level jobs in Biology* research labs and related areas, follow this path:

1. Boot any browser
2. To search for specific job listings by Position Number or by category (Res. Spec., etc.), copy the **URL** below (if you are reading this online, just click on it):
<http://www.ohr.wisc.edu/Weblisting/External/webgrid.aspx?area=000018>
3. Highlight the "**address**" line in the box at the top of the browser page and paste in the address above.
4. Here is a recent screen shot of the Madison website.



5. In "**Search for:**", type "**RESEARCH SPECIALIST**" (These are B.S.-level jobs)
6. Each file represents a job listing. Click on those that look interesting.
7. Either print (**FILE => PRINT**), or save job description by clicking on **FILE=>SAVE AS** from menu, and save to your **myfiles** private folder, USB drive or PC.
8. For general information on how their job website works, click on link,
<http://www.ohr.wisc.edu/employment/aboutpvl.html>
which explains everything about the Position Vacancy Listings (**PVL's**)

MEDICAL COLLEGE OF WISCONSIN (MILWAUKEE). – When the time comes, here is another source of clinical and research jobs for BS students.

<https://tbe.taleo.net/NA3/at/careers/jobSearch.jsp?org=MCW&cws=1>



Under "Staff Careers" tab, go to, "Search Openings"

Search Openings

Search our positions by selecting a location below. To see all openings sorted by location select "-Any-". Each includes a link for applying and submitting your resume to us online. This is the fastest and most reliable way for any of our positions.

There are currently a total of **205** open jobs.

Job Category: (Research selected)

Location: (1801 N. Dr. Martin Luther King, Jr Drive, 2071 North Summit Ave, Allen-Bradley Medical School Laboratory)

Description Keywords:

Position Number:

Department: (Biotechnology and Bioengineering Center selected)

If you check the "Research" category and "--Any--" location, and leave the rest blank, all the available research positions should come up. Look for position names, **Research Technologist level I** (requires little or no experience). There are no salaries listed.

3. SOME TIPS ON LOOKING FOR A JOB (NOT PART OF IN-CLASS ASSIGNMENT)

1. *Plan to get depressed.* Everyone takes the application/interview process personally, as if the interviewer has some special power to decide your personal worth. It's baloney, but it's what you will probably feel if the first tries don't work out. But: **PERSISTENCE IS EVERYTHING!**
2. *Plan your letters of reference early.* Decide which of your professors (or former employers) know you best and will write a strong letter of recommendation. If you got an "A" in a course there is no guarantee that the instructor knows you from Adam or Eve. **If no faculty member knows you by name, get cracking!** The UWSP is too small a place to get lost in classes!
3. **Call the prospective employer directly.** Before sending resumes and/or letters of recommendation, give the contact person a telephone call, not an email, "to find out if the position is still open". Many students have gotten a 'leg up' from a simple phone call. You can find out who is the lab director offering the job. Also, investigators are often eager to tell you about what they do and find out what skills you might have they can use in the lab. If the job is still open and you think you are interested in the position, ask them for a research article you can look up. This can be valuable if they know that you know something about what they do, and will be very important for the interview.

TIPS FOR INTERVIEWS

From Career Counseling Corner: <http://www.careercc.com/interv3.shtml>

- Interview Tip 1: **Plan Ahead - Do your homework!** Research the position and, if possible, the people you will meet with at the interview. Review your work experiences. Be ready to support past career accomplishments with specific information targeted toward the companies needs. Have your facts ready!
- Interview Tip 2: **Role Play** - Once you have finished studying, begin role playing (rehearsing). Use the general questions provided below in the Interview Preparation Area. Write down answers if it helps to make your presentation more concise. Try to keep your answers to the information your new employer will want to know.
- Interview Tip 3: **Eye Contact** - Maintain eye contact with your interviewer. Show you want the job with your interest. A trick for the nervous: stare at the bridge of their nose between the eyes!
- Interview Tip 4: **Be Positive** - In particular, avoid negative comments about past employers.
- Interview Tip 5: **Adapt** - Listen and adapt. Be sensitive to the style of the interviewer. Pay attention to those details of dress, office furniture, and general decor which will afford helpful clues to assist you in tailoring your presentation.
- Interview Tip 6: **Relate** - Try to relate your answers to the interviewer and his or her company. Focus on achievements relevant to the position.
- Interview Tip 7: **Engage** - Encourage the interviewer to share information about his or her organization (company, lab, school program). Demonstrate your interest. Some suggested questions to ask the interviewer are provided in the "Questions You Could Consider Asking the Employer" (next page).

Below are questions you may be asked in the interview:

1. Tell me about yourself? (try to hold your response to 2 minutes)
2. What do you know about our lab?
3. Why should we hire you?
4. What do you look for in a job?
5. What skills and qualifications are essential for success in the position of _____?
6. How long would it take for you to make a meaningful contribution?
7. How does this assignment fit into your overall career plan?
8. Why are you looking for this career?
9. How would your colleagues describe you?
10. How would you describe yourself?
11. What do you think of your present or past supervisor at a job or school project?
12. What were the five most significant accomplishments in your career so far?
13. Can you work well under deadlines or pressure?
14. Why do you want to work for us?
15. What other positions are you considering?
16. Have you kept up in your field with additional training?
17. What are your career goals?
18. What are your strong points?
19. How did you do in school?
20. What position do you expect to have in 2 to 5 years?
21. If you took the job what do you think you could accomplish in the first year?
22. What kind of hours are you used to working or would like to work?
23. Do you have your reference list with you? (Remember don't give it out unless it is asked for).
24. What questions didn't I ask that you expected?
25. Do you have any question for me? (See Questions for the Interviewer that you might want to ask below).

Below are questions you may want to ask the Interviewer:

1. Why is this position open?

2. How often has it been filled in the past five years? What were the main reasons?
3. What are some of the objectives you would like to see accomplished in this job?
4. What are some of the long term objectives you would like to see completed?
5. What are some of the more difficult problems one would have to face in this position?
6. What type of support does this position receive in terms of personnel, equipment and finances?
7. What freedom would I have in determining my own work objectives, deadlines, and methods of job evaluation?
8. What advancement opportunities are available for this position, and within what time frame?
9. What significant changes in this program do you foresee in the near future?
10. How is one evaluated in this position?

Below are questions you do NOT have to answer by law★:

1. Are you married?
2. Do you have children?
3. Do you plan to have children?
4. How old are you?
5. That's an interesting name! What nationality are you?
6. What religion do you practice?

★ One polite response if asked any of the above: "I'm sorry, but I don't think I am supposed to answer questions like that."

APPENDIX: PREPARING POWERPOINT PRESENTATIONS:

Instructions & an Exercise

(modified from "Writing in Molecular Biology" handout of Dr. D. Caporale, 2001)

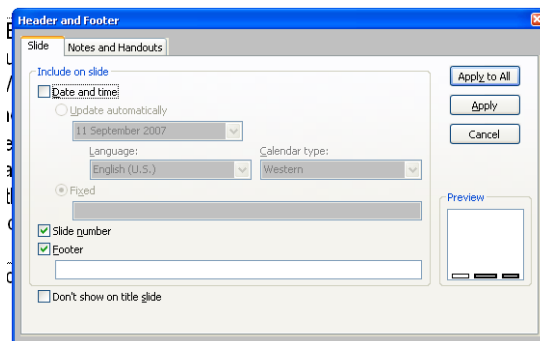
1. OPEN POWERPOINT:

- a. Double-click on POWERPOINT icon, or use START button at bottom of screen → Programs → [Microsoft Office] → PowerPoint.
- b. Click on BLANK PRESENTATION

2. General:

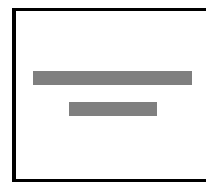
- a. Make a mistake? **UNDO** with **Ctrl-Z**
- b. Need a new slide? Hold **Ctrl** and hit **M** key [**Ctrl-M**]
- c. Pictures, arrows and other things with "**handles**" can be *deleted* with the **DEL** key when the handles are showing. Text boxes can be deleted by clicking twice on their shaded borders, then **DEL**.

3. **NUMBER YOUR SLIDES.** Number your slides by clicking on **Insert => Slide Number**. On the menu, uncheck "**Date and Time**" and check "**Slide Number**".



4. MAKE A TITLE SLIDE:

- a. **Choose slide style:** Double-click on the first AUTOLAYOUT slide pattern (title and sub-title boxes on slide)
- b. **Change background color:** use **FORMAT → SLIDE BACKGROUND**. light color that is easy on the eyes from the "more colors" menu and click All. You can change this background color if it is distracting.
- c. **To use a special slide pattern:** **FORMAT → Apply Design Template**. **THIS IS**
- d. **Enter a title:** click on "**CLICK TO ADD TITLE**" inside top box, then type in your talk's title.
 - i. For practice, highlight the title and *change FONT style and color* with **FORMAT → FONT** menu.
- e. **Enter your name(s), the course and university affiliation in the sub-title box [e.g., Mel Brooks, Biology 490/01, University of Wisconsin – Stevens Point]:** click on "**CLICK TO ADD SUBTITLE**" and type in information.
 - i. for practice, change font style and color for best visibility



(title and
Choose a
Apply to

THIS IS

5. MAKE AN OBJECTIVES (OR SUMMARY) SLIDE:

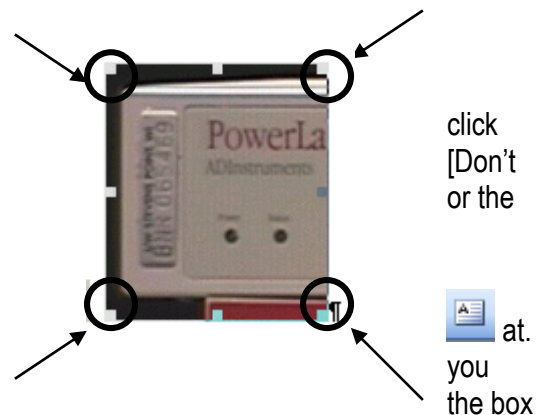
- a. From command bar, click on **VIEW → SLIDE SORTER VIEW** This give a thumbnail of all slides so far (just one), but it is useful when you have them all done.
- b. click to the right of the first slide, then click on **INSERT → NEW SLIDE** or use "**ctrl-M**". This brings up the AUTOLAYOUT menu.
- c. Double-click on the slide pattern containing a title box and a bulleted-items box (second one).
- d. In the title box, type in "**OBJECTIVES**"
- e. Make up your objectives and type them in the lower bulleted-items box.

6. COPY A PICTURE AND REFERENCE URL OFF THE INTERNET TO USE IN A SLIDE:

- Make a blank slide in PowerPoint. (Layout → Blank). Minimize.
- Open your browser. Go to **Google Images**: <https://www.google.com/imghp?hl=en&tab=wi>
- For example, type "**Multiple Sclerosis**" in the query box and hit ENTER.
- You will get a page of images. Look through the web page until you find a good-sized picture that you like.
- Left-click on a picture and choose the option, "**View Original Image**" on the right.
- Right-click on the image and select "**Copy**". Go to PowerPoint slide and click on slide, right-click and choose "**Paste**". The figure will appear. It may be too big, but adjust it later.
- Go back to the browser. Right-click again on the original image and select, "**Copy image URL**". Go to PowerPoint slide and click on slide, right-click and choose "**Paste**". A textbox appears with the URL. This is your reference for the image. Make it as small as possible

h. Adjust the size of the picture:

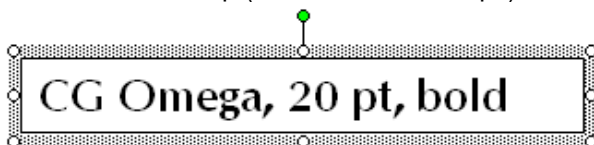
- click on picture until you see the 8 little boxes ("handles")
- put the mouse cursor over one of the **CORNER** handles → and drag to increase or decrease the size of the picture. use the middle boxes. They squeeze the picture one way other.]



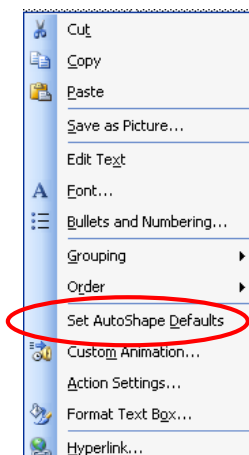
7. ADD TEXT BOXES.

Draw a textbox. -- Click on the "Insert" tab. Click on TextBox icon. Move the cursor to the slide area. An arrow appears. Put the arrow where you want the box to be. Click and drag arrow to form a box. The default form of is with a black line around it.

Adjust the typeface and size of print in the textbox. -- After you have typed the text, highlight the whole text (**ctrl-A** shortcut), then choose the *typeface* (**Arial, Comic Sans, Times Roman, etc.**) *style* (**boldface, italic, underlined**) and *size* boxes in the toolbar at the top (minimum size = 20 pt.)





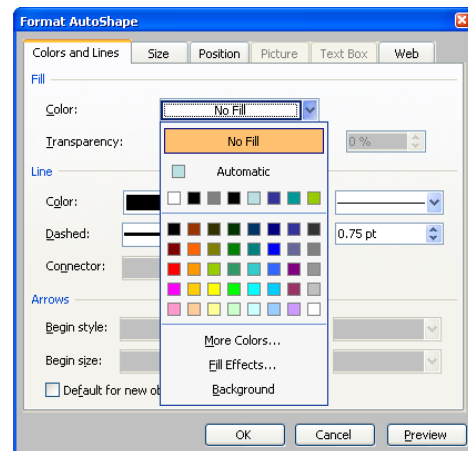
Set default textbox settings. -- This will set all new textboxes to the same style, type, etc as the one you have created. Click on the border of the textbox so it becomes shaded. Put the cursor on the border and RIGHT-click to get this menu: . Click on "**Set AutoShape Defaults**". In the example above, all new textboxes for this PowerPoint will start out in CG Omega typeface, 20 pt size, boldface style.



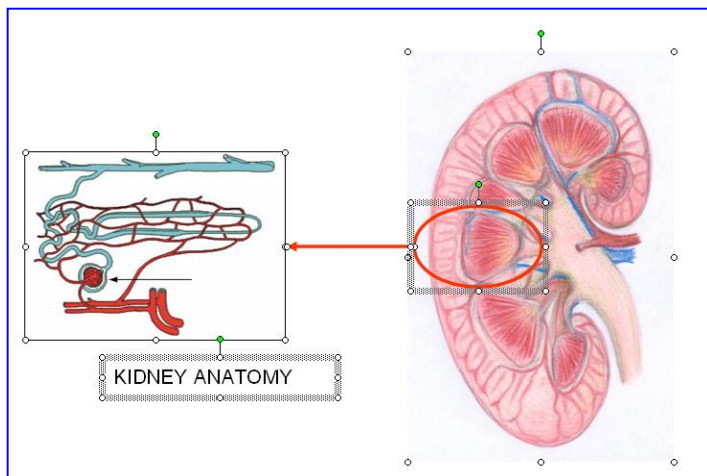
8. DRAWING TOOLS AND GROUPING. Click on "Insert" tab and click on "Shapes" icon.

Go to the slide and click and drag to form the arrow, line, etc. Circles and squares come with a solid fill that covers up your drawing. Double click on it and see the menu at right. Remove the fill by clicking on Color: "No Fill". You can use the handles on any object to squoosh it around. Move the cursor to see the cross and drag it to its best position over what you want to highlight. Use the

brush icon  in the Drawing Toolbar to change its color (the down arrow allows you to select the color for the brush). Use the Line Thickness icon  to change the thickness of the line.

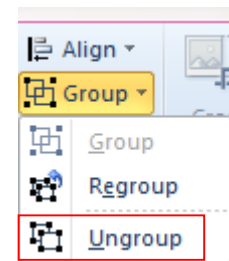
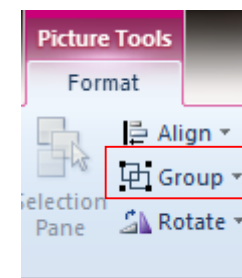
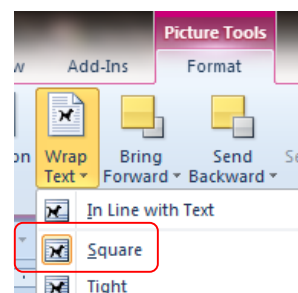


Grouping pictures, lines, etc. -- If you have several things you want to keep together (picture + arrows, etc.), use the Grouping function. Make sure your pictures are moveable by double-clicking on the picture to get the "Picture Tools" tab (figure at right), click on "Wrap Text" and "Square". Top group objects together, press and hold the **SHIFT** key and click on each of the objects you want to keep together. The "handles" for each should appear and stay there as you click on other objects. In the figure below, the pictures, the textbox and the arrow and circle are all highlighted (note "handles" on all three). Click on the 'Group' icon of the **Picture Tools** → **Format** tab. (See below right.) Now, even if you move of the objects around, all the other objects will move with it. ** Also, you can reduce the size of all by grabbing one of the corner handles and resizing as you would a picture. If you have to readjust one thing in the group, you



have to **ungroup**. To do this, click on the object you want to change. Look again at the Picture Tools tab, Format tab and click on Group icon again to get the drop-down menu seen at right. Click on "Ungroup" and all the elements will have their own handles again. Click on the one element you want to change. Change it and click on **Picture Tools** → **Format** → "Regroup" (shown in same menu at right).

** If the grouped object now sits on top of the text, right-click on it and from the menu choose, "Format Object" → "Layout" tab → "Square", and the text will wrap around it.



9. MAKING A GRAPH SLIDE: Use EXCEL to make graphs and copy to your slide. (The PowerPoint graphing functions are clunky.)

10. MAKING A TABLE SLIDE: Make a table in WORD or EXCEL and copy-paste to the slide. It must be simple and small enough to fit the slide.

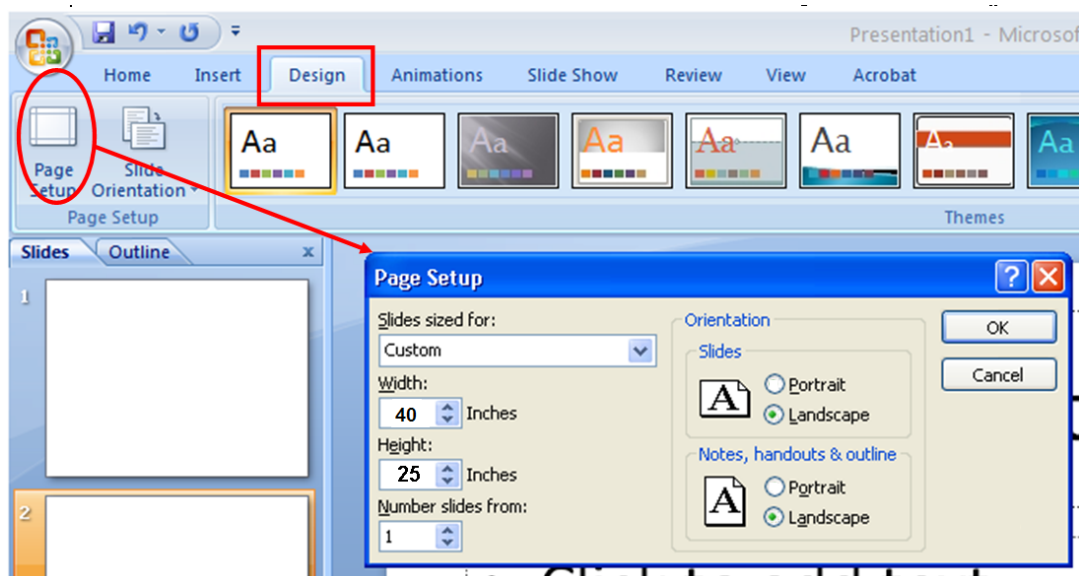
APPENDIX: MAKING AND PRINTING POSTERS WITH POWERPOINT ON BIOLOGY'S 42-IN PRINTER

SSepsenwol
22 July 2016

MAKING THE POSTER SLIDE IN POWERPOINT. The poster printer paper is 42" wide and can be a minimum of 12" long. The practical printed width is 40". We will make the printed area of our posters **40 inches wide by 25 inches long, adding 1-inch margins all around (= 42 x 27 total area, printed sideways.)**

NOTE: some of the PowerPoint 2010/2013 graphics features do not print with our poster printer -- things like shadows around pictures or letters. In that case, you must save it as a PDF file using Adobe Acrobat (see instructor).

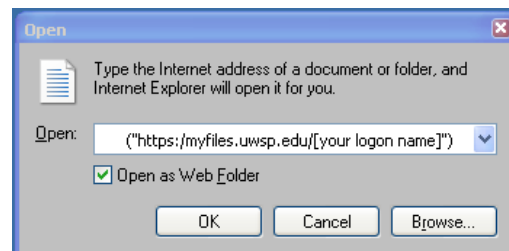
1. First, make your POWERPOINT slide dimensions at least 2 inches smaller than the printer's paper, to leave a safe 1" printing margin all around for tacking, taping, etc. No problem for us, since the printed area of our poster will be **40" wide by 25" long**. To make a printed area **40"W x 25"H**, I will make the PowerPoint slide that is **40"W x 25"H**:



2. In PowerPoint 2010: **DESIGN** tab → **PAGE SETUP**. Set size: width = 40 in; height = 25 in. Check "Slides" → **Landscape**.
3. Make the poster. Keep these things in mind: the viewers will be within 2 feet of the poster, **so text can be 12-16 point, not bigger**, except for titles. Graphs, photo's, etc. do not have to be enlarged beyond what you would normally print on letter-size paper. Use a **white background** if possible -- text and figures disappear in a dark background regardless of contrast. Using a dense-color background also uses up a tremendous amount of expensive ink. "Screen-saver" images in the background are mostly a distraction to the reader.
4. Alignment suggestion: If you have a lot of text boxes, figures, etc., align them by using the **ALIGN TOOL** on the right side of the **PAGE LAYOUT** menu. Hold down **CTRL** key and click all the images you want to align, then select "**Align Bottom**", "**Align Top**", etc. to line them up properly. For example, if you did "**Align Bottom**", it uses the lowest picture as the guide. If you want to evenly space out all or some of the images, use, "**Distribute Horizontally**". The same button works with centering, spacing vertically, etc. Handy!

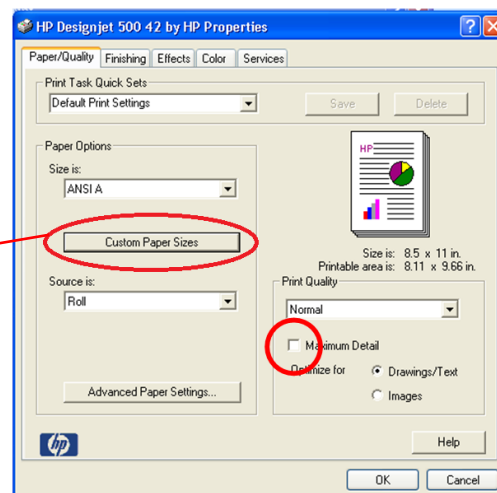
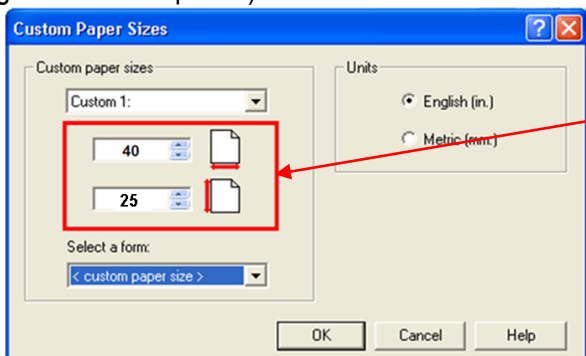
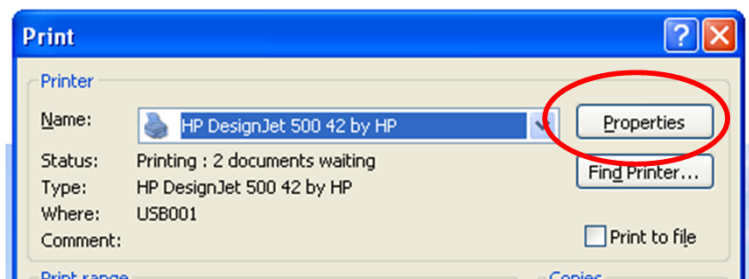


- Error check:** if any textboxes or figures overlap the edges of the poster the printer will **STOP!** So, as a final check, highlight any image, then hit **CTRL-A** and everything should be highlighted with "handles". Check that none of the boxes with handles overlap the edge (text boxes are notorious). Resize and re-save.
- When done: **FILE→SAVE**. Transfer poster file to your UWSP **myfiles** server, CD, or your own USB drive.
- If you are saving to **myfiles**: go to any browser. Click on **FILE => OPEN**. (If the menu bar isn't visible, go to **Tools** button, click on "**Menu Bar**".) Type in the address in "**Open**" box: "https://myfiles.uwsp.edu/[your UWSP logon name]." (Example: https://myfiles.uwsp.edu/swol595.) Check box for, "**Open as Web Folder**". Click on "**OK**". You will get a web page. Click on the "**Private**" folder, and save your poster there. Repeat the process to get the poster slide for printing.



DO THIS WITH INSTRUCTOR ONLY:
PRINTING THE POSTER ON THE HP 42-IN PRINTER:

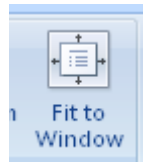
- Check on the ink supplies: Look for the MENU button on the printer, top right side. Hit the button until you see the INK graphic; make sure there are no "!", meaning it is very low on ink. Call for help if they need replacing.
- Check the paper roll in back of the printer to be sure there is enough (at least 1/4" around the roller). Call for help if the paper roll needs replacing.
- Bring up slide in POWERPOINT on PC in printer room.
- Hit "**CTRL-P**" keys to get **Print** menu
- In **Print** menu, in **Name** box, select "**HP DesignJet 500 42 by HP**"
- click on "**Properties**" button
- In **Properties** menu, click on "**Custom Paper Sizes**"
- In the Custom Paper Sizes menu, enter the width = **40** and the height = **25** for our poster). Click "**OK**".



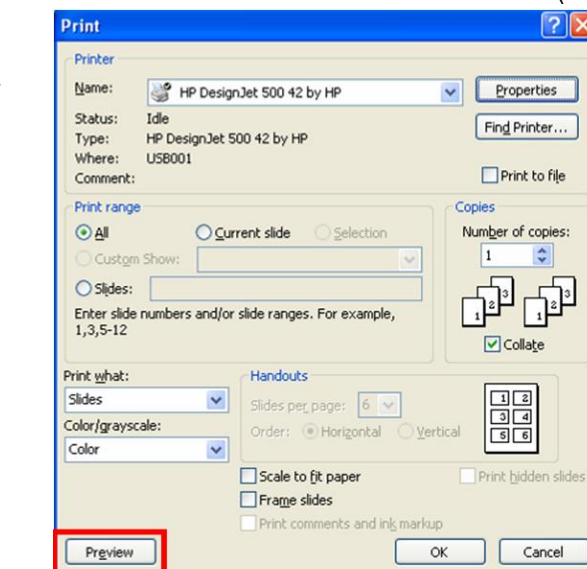
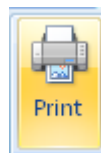
★★ **NOTE:** DO NOT check off "**Maximum Detail**" box unless you are printing **very** detailed pictures. **THIS USES UP A LOT OF INK!** ★★

9. Click **“OK”**. This returns you to the **“Properties menu”**. Go to **“Paper/Quality”** tab (below). Setup **“Print Quality”**: **Normal** ; **“Optimize for”**: **Drawings/Text** if no photos; use **“Images”** if there are photos in your poster. Click on **“OK”** button on **“Properties”** menu. (Returns to main **“Print”** menu). Click on **“Preview”** button (see left). The **Preview** menu comes up.

10. In **Preview** menu, click on **VIEW → “Fit to Window”** button to see the whole poster. It should be in landscape format, with the wide part of the slide across the width of the paper.



11. Check that there are no figures or textboxes over the borders of the slide. If it looks OK, click the **“Print”** button at top left. If not, hit **“Close”** and readjust the picture(s) on the slide and go back to print preview as above. The print preview is an



accurate picture of how it will print.

12. The poster should print with a 1” margin all around (42” W x 27”H). Trim if necessary with the 6-ft straight edge in TNR 440 and a razor blade over a cardboard backing.
13. **Mount poster with Glue Dots for posters (2 people)**, 2 dots at each corner and 2 dots each in the middle, top and bottom. Hold just the top edge near the wall and line up with a concrete seam in the wall. Press on one corner and re-align if necessary and stretch out and press down the other top corner. Press all along the top to make a good bond, then stretch down and attach the bottom of the poster. Press all around one more time.