

SYLLABUS -- PSY 825

Advanced Problems in Perception: Perceptual Organization: Old and New

SPRING 2000

Class Time: Wed., 3:00 pm to 5:30 pm

Room: 724 Poe

Faculty Director:

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Office Hours: MON. 1:30-3:15 pm; and BY APPOINTMENT.

Special appointment times *can* be arranged. To make such arrangements, see me after our meeting, or phone or email me. Alternatively, you may leave a message in my mailbox in Poe 640. Remember that I may not see your message immediately; please allow a day or so for me to respond.

Readings ("old"): Koffka, K. (1935). Principles of Gestalt Psychology.
Harcourt, Brace & World.

Readings ("new"): Selected book chapters, technical reports and/or articles from sources such as *Perception & Psychophysics*, *Psychological Science*, *Current Directions in Psychological Science*, *Perception*, *Vision Research*, *Neuropsychologia*, *Presence* and the *Journal of Experimental Psychology: Human Perception & Performance*. All selections must have been published/distributed within the last 6 years (i.e., dates should be from 1994 to 1999, inclusive; but, yes, an item from 2000 is also OK).

Prerequisites:

The main prerequisite for participation in PSY 825 is satisfactory completion of PSY 500 or an equivalent graduate course in some sensory system(s) and/or perception. Completion of PSY 700 (*Audition and....*) is recommended, but is not required. *With consent of the instructor*, other appropriate background *may* be accepted.

General Description of Coverage:

This Spring 2000 offering of PSY 825 will provide an opportunity to read and discuss material related to topics broadly described by the label "perceptual organization." During the first few weeks, we will read a portion of Koffka's original exposition of the Gestalt viewpoint. We will then jump to an examination of recent research on a variety of sub-topics of interest to class members.

Appropriate topics include research on how organisms (usually human) utilize, process and integrate/organize information to produce percepts of form, structure and space, or to perceive events within that space. It is not necessary that the modality of concern be visual; research on the organization of auditory percepts or tactile/haptic percepts is perfectly acceptable. If it seems likely that several class members will be unfamiliar with necessary background, then the Facilitator (Discussion Leader) should be prepared to help fill-in such background. (This may sometimes be true for visual, as well as for non-visual, research areas.)

It is important to note that the inclusion of a topic in a previous course (such as PSY 500 or PSY 700) does **not** automatically make that topic suitable for the present seminar. Some examples of suitable and unsuitable articles are attached to the end of this syllabus, to provide a starting point for your own selection(s).

Evaluation:

Although standard letter grades are used in PSY 500 and in PSY 700, **grading for PSY 825 is S-U**. The use of an S-U grading scheme is appropriate, since there will be few specific evaluation "products." Thus, there will be only one short written paper required. At least one "demonstration or project" is also expected (see below), although, if necessary, a second paper may be substituted for the project. Individuals will not be responsible for lengthy in-class presentations, as they are in PSY 700, although each participant will serve several times as "facilitator" for the class discussion. No exams are currently planned.

To receive a grade of "S" (or "AU" for auditors*), students are expected to:

- 1) complete all appropriate reading **prior** to discussion in class;
- 2) spend sufficient time **thinking about** the assigned materials, to develop either a clear understanding of the ideas/experiments presented or to formulate specific questions which can serve as points for discussion;
- 3) **attend all class meetings (unless seriously ill)**;
- 4) contribute to enthusiastic class discussions with thoughtful ideas, questions and/or comments;
- 5) help each other toward a greater understanding of the shared material and its implications;
- 6) choose stimulating article(s) and lead effective discussion(s);
- 7) fulfill the procedural obligations of the course, by submitting materials for distribution within the expected schedule (see later section);
- 8) prepare their paper carefully, and submit by the deadline;
- 9) bring in and share one (or more) effective demonstration project(s), based upon either an article you have chosen to present or some other idea – relevant to perceptual organization – that merits class discussion.

Excessive absences (especially if combined with a serious lack of participation) may result in a grade of "U" (or "NR" for auditors). While it is neither the director's wish nor intent to give such grades, it is important to recognize that **a once-per-week seminar of this sort will only work if each participant commits herself or himself to making it an intellectually stimulating experience.**

More on – the Written Paper:

The one required paper for PSY 825 is intended to be an exercise in thinking about the topics of the seminar and expressing those thoughts in written form. Although each student should consult with me about what he/she plans to do, prior to preparing his/her paper, basically the topic is up to the individual. This assignment is expected to produce a well-organized and clearly expressed essay about 4-6 pages in length (assuming 10-11 pt. font with spacing of 1.5 – 2 and reasonable margins). References are fine, but this is not intended to be a "term paper" or a review of research. It is intended to be a thoughtful discussion of some issue related to perceptual organization: a "think piece."

The paper will be due to me by the last regular class meeting.

IMPORTANT REQUIRED STATEMENT: *Regardless of the topic of any paper written for this course, it will be assumed that a strict Honor Code applies. Although discussion of materials with other students or with faculty members is allowed and even encouraged, the final written product submitted to me for evaluation is expected to represent the individual effort of the student submitting that work. Ideas or findings of others may certainly be included, but they should be properly attributed, so that credit accrues to the appropriate person. I hope it is needless to note that plagiarism is anathema to genuine scholarship.*

More on - the "Project:"

As you choose the papers you wish to present to the group, try to find at least one for which the discussion would be improved by a demonstration. This need not be a "big deal;" good demonstrations can sometimes involve simple devices made from cardboard. Other demonstrations might be created using more sophisticated equipment, such as a laptop computer running a PowerPoint display through an overhead-projector. The point is that **this assignment should be fun**, a chance to use your imagination and creativity, an opportunity to show your colleagues something "neat." You may implement a demo which you simply find described in an article. You may try out a demo which extrapolates from the material in the article itself. You may even just come up with an idea independently of any article. But, unless you feel you *must* write a second paper (same rules as the one described above), try your hand at a demo. Or two. Or three. The one major requirement is that what you show should be substantively your own. Do not just download some pictures or a display of moving stimuli from one of the WEB sites which show off perceptual effects. (Getting an idea from the WEB is fine, but create your own demo, change some parameters, add some factor which isn't already there, etc. etc.)

NCSU does not discriminate on the basis of race, color, national origin, religion, sex, age, or disability. With respect to disabilities, Section 504 of the Rehabilitation Act of 1973 provides that: "No otherwise qualified handicapped individual in the United States shall, solely by reason of his or her handicap be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." NCSU abides by these regulations. The faculty director for PSY 825 will make "reasonable adjustments" to ensure that students with hearing, visual, motor, or learning disabilities can participate as fully as possible and that the academic requirements of the course are administered in a non-discriminatory manner. For further information and/or assistance in arranging for special needs, please contact the Office of Disability Services for Students, located in the Student Health Service, 2815 Cates Avenue, Suite 1900 (voice phone: 515-7653; TDD: 515-8830).

More on – Your Obligation as Discussion Leader ("Facilitator"):

1. Browse the recent literature to locate an article of possible interest for presentation. Obtain the instructor's approval of each choice. Approval will be based upon submission – via email – of the full citation (authors, title, journal, pages) and a brief summary (the article abstract will be fine). If more than one person happens to request the same item, assignments will be handled on a strictly first-come, first-served basis.
2. Once a journal article or other item has been approved, it is the responsibility of the student to provide a copy of that item to the instructor and to each member of the class. Such copies are to be complete (including the reference section) and fully legible. They **must** include all information necessary for a full APA-style citation, either printed as part of the article itself or carefully (legibly) added by the student.

Except as noted below (see section 6), the above copies are to be available for class members by class-time two weeks ahead of the expected date for presentation (see preliminary schedule which follows).

3. The Facilitator should become completely familiar with the selected item prior to presenting it to the class. This may well require some extra reading of associated articles, if necessary for really understanding the research, as well as its context, importance and implications.
4. Class presentations should begin with a *brief* synopsis, in simple terms (i.e., using minimal jargon), lasting no more than 5-10 minutes. Remember, everyone should have already read the paper; you are merely putting them back in the proper context. Following the initial synopsis, you might indicate what you think about the item --- methodological creativeness or methodological problems, theoretical significance, relationship of described phenomena to other work in which you have an interest or to other work previously discussed, etc., etc. Basically, get a discussion going. The more effective you (and your chosen article) are at sparking people's interest, the less work you will have to do in drawing them out.
5. It is very unlikely that discussions will last equally long for each item. This is to be expected and is certainly no problem. We want to spend enough time to really consider each item (and any related issues), but there is no need to continue to the point of boredom.
6. Because of the unavoidable variability in the length of discussions, meetings may not last equally long each week. Also, because of this variability, the schedule for presentations may shift repeatedly. We will move on to the next item as soon as we finish with the one before, time allowing. Thus, if your presentation is *tentatively* scheduled to begin the next week's class, you should actually be ready to go one week ahead. (And, everyone should also be slightly ahead in their reading.) A Facilitator may be given a few day's leeway in providing the class with copies of a paper, if his/her presentation schedule is unexpectedly moved up, due to such a re-scheduling.

Preliminary Schedule of Activities:

The following schedule is *only* an example for the sake of this initial syllabus, since it depends upon the number of people in the class and the rate at which we proceed through the articles. The actual presenters "on deck" will be announced at the end of each class. Identification of students as #1, #2, etc. will be determined in class. Given that this schedule will no doubt "slip," and given that we will eventually reach the last meeting, it is possible that some students will have served as Facilitator somewhat more often than others, although the discrepancy should not be large.

	Items to be Available from Facilitators #___	Discussion Led by Facilitators #___
Wed., January 12		Organizational Meeting
Wed., January 19		Koffka (ch. 1, 2 & 3)
Wed., January 26		Koffka (ch. 4)
Wed., February 2	1, 2, 3, 4	Koffka (ch. 5 & 6)
Wed., February 9	5, 6, 7, 8	Koffka (ch. 7)
Wed., February 16	1, 2, 3, 4	1, 2, 3, 4
Wed., February 23	5, 6, 7, 8	5, 6, 7, 8
Wed., March 1	1, 2, 3, 4	1, 2, 3, 4
Wed., March 8	5, 6, 7, 8	5, 6, 7, 8
Wed., March 15	<i>Holiday</i>	<i>Holiday</i>
Wed., March 22	1, 2, 3, 4	1, 2, 3, 4
Wed., March 29 *	5, 6, 7, 8	5, 6, 7, 8
Wed., April 5	1, 2, 3, 4	1, 2, 3, 4
Wed., April 12	5, 6, 7, 8	5, 6, 7, 8
Wed., April 19	<i>Holiday</i>	<i>Holiday</i>
Wed., April 26	-----	1, 2, 3, 4
Wed., May 3	-----	5, 6, 7, 8

NOTE: If inclement weather forces the cancellation of one or more classes during the semester, then **we will make up those meetings**. To do so, we may meet on another day (if mutually agreeable) or we may schedule a "make-up" meeting during the Final Exam period at the end of the semester. Any such changes in schedule will be announced as far ahead of time as is feasible.

Examples of Probably Suitable Reports

(*not* necessarily recommended, just "appropriate"):

- Physical and psychological representations of faces: Evidence from morphing.
- Judgments of perceptual groups: Reliability and sensitivity to stimulus transformations.
- Spatial articulation affects lightness
- Temporal constraints on apparent motion in auditory space.
- Size contrast as a function of conceptual similarity between test and inducers.
- Center of mass perception and inertial frames of reference.
- Perceiving the size of trees: Form as information about scale.
- Imagery-perception interaction depends on the shape of the image: A reply to Farah (1989).
- Interactions between perceptual organization based on Gestalt laws and those based on hierarchical processing.
- Orientation-dependent priming effects in the perception of biological motion.
- Perceiving scene layout through an aperture during visually simulated self-motion.
- Detection of three-dimensional surfaces from optic flow: The effects of noise.
- Does symmetry structure facilitate the depth separation between stereoscopically over-lapped dot planes?
- Properties of spatial representations: Data from sighted and blind subjects.
- Limits to infants' knowledge of objects: The case of magical appearance

Most studies of visual, auditory or haptic form and space perception; studies of color and/or lightness perception, if related to pattern or structure and not just wavelength/luminance.

Examples of Probably Unsuitable Reports

(*neither* weak *nor* uninteresting; just inappropriate for our present purposes):

- Attention demands during reading and the occurrence of brief (express) fixations.
- Smell and taste function in the visually impaired.
- Color spaces of color-normal and color-abnormal observers reconstructed from response times and dissimilarity ratings
- Binocular vision enhances phase discrimination by filtering the background.
- Effect of masker level on infants' detection of tones in noise.
- The range effect as a function of stimulus set, presence of a standard, and modulus.
- Additivity of loudness across critical bands: A critical test.
- Covert effects of alcohol revealed by event-related potentials.
- Inter-ocular suppression in normal and amblyopic subjects: The effect of unilateral attenuation with neutral density filters.

Most studies of primarily sensory phenomena, studies of visual or auditory pathology (but not necessarily eliminating studies of perceptual losses associated with central lesions), studies of psychophysical techniques for their own sake, studies generally described as dealing with memory, cognition and/or information processing (unless clearly related to "organizational" issues).