RESEARCH PROJECT INSTRUCTIONS

Research Project Outline & Timeline

- You will work in groups of 3-4 students to produce a short group essay (> 5 double-spaced pages long, including a "References" section; see below for details), expanding upon any topic covered in class, as it relates to your interests.
- Group formation and topic selection are your responsibilities and are due between Weeks 8-10 of classes.
- Project presentation and submission are due on the last class meeting.
  Each group will have ~30 minutes to outline the basic aspects of their research project to the rest of the class. Presentations must involve all group members, who must be prepared to answer questions and submit the final group essay at the end of the group presentation.

Research Project – Five-week-long Suggested Workflow	
During the 1st week (W10):	Identify, gather, and begin evaluating sources. Refine topic. Meet as a group and/or establish means of group sharing and communication.
During the 2nd week (W11):	Continue evaluating sources and synthesizing ideas.
During the 3rd week (W12):	Continue evaluating sources and synthesizing ideas.
During the 4th week (W13):	Continue evaluating sources and synthesizing ideas. Complete and assemble draft of essay (group and/or instructor read and critique).
During the 5th week (W14):	Finalize paper, all formatting, citations and references, proofreading. Organize and rehearse presentation. **PRESENTATION DUE - ESSAY DUE.**

Research Project Content Guidelines

Your essay will essentially be equivalent to the literature-review portion of a research study and will accomplish the following fundamental objectives:
- Articulate the question(s) and/or problem(s) related to the topic you seek to investigate. (introduction)
- Discuss and evaluate how existing literature has addressed your question(s) and/or what relevant information existing literature offers to help you address your question(s) yourselves. (body)
- Summarize your findings and ideas, including what questions/problems were answered by the literature, what is still unresolved, and what new or refined questions/problems you discovered from your investigation. (conclusion)

More specifically, your essay will include:

a) A **title** that well represents the content of your essay.

b) An **opening paragraph** (or two) stating the topic(s)/question(s) of interest. Topic(s) must be related to one or more of the concepts raised throughout the course. The opening should attempt to break down your broad topic(s)/question(s) into a set of focused, interrelated sub-questions that will communicate the focus and significance of your essay and help guide your search for relevant sources of information.

c) The **main body** of your essay where you will be discussing how existing literature (e.g. encyclopedia entries, book chapters, academic journal articles, industry/popular press articles, etc.) has addressed your question(s) and/or what relevant information existing literature offers to help you address your question(s) yourselves.

   Rather than simply listing information found in your sources, try to identify a theme and use it to structure your essay. In other words, your discussion will have to critically incorporate information by comparing and contrasting sources and bringing information together in order to help you substantiate and convincingly present your own claims. Information/claims based on existing sources must include in-text citations.
   In order to best draft this portion of your essay, you will need to identify relevant sources of information and possibly produce an **annotated bibliography** of these sources.

   What is an annotated bibliography?

   An annotated bibliography consists of a list of fully cited sources (see the section on sources, above), with each citation followed by a ~one-paragraph-long description of the cited source. As opposed to summaries, where such paragraph(s) would attempt to capture all major points raised within a source, annotations highlight the specific reasons a source was chosen by and will be useful to the annotator. Annotations are both more detailed (i.e. they need to include specifics rather than generalities) and more selective (i.e. they only focus on the aspects of the source that are relevant to a given topic of interest) than summaries. Consequently, different annotations of the same source may look very different one from another, depending on the topic of interest to the annotator.

   How will having an annotated bibliography help you complete your essay?

   Annotated bibliographies are (structured) first drafts of research papers. After successfully completing an annotated bibliography (i.e. after selecting sources appropriate to your topic and teasing out of them information that are relevant to your question(s) of interest) you can draft the body of your essay by simply
   i) transferring to it your annotations (including in-text citations),
   ii) arranging them in a logical (relative to your argumentation) order, and
   iii) adding your own commentary that compares and contrasts them in order to shed light to your questions(s) of interest.
   In addition, your annotated bibliography will already contain all the information you need for your essay's "References" section.

Annotation example (submitted by a student - different course)

Topic: Motivating Students to Stay in Music Performance Classes

Schmidt, C.P. (2005). "Relations among motivation, performance achievement, and music experience variables in secondary instrumental music students," *Journal of Research in Music Education* 53(2): 134-147.

> The study investigates how student achievement in music and consistent participation in grade school bands is influenced by how a teacher rates a student's musical performance skills, achievement, and effort. Among equally skilled students, those who receive more frequent positive reinforcement by the teacher are more likely to take on serious instrumental-training challenges and have a higher tendency for perceiving and presenting themselves as motivated and optimistic. More specifically:
> a) Intrinsic orientation, self-concept, and commitment to band highly correlate with the teacher's rating of student performance, confirming the impact of positive reinforcement.
> b) Motivational tendencies and their relationship to achievement and self-perception are relatively stable across grade levels, implying that motivational strategies in music education are important at all grade levels.

d) A **concluding paragraph** that summarizes your findings and ideas.

e) A **"References" section** (see the section on sources, above) listing all sources included in your in-text citations.

If you chose to assign separate self-contained portions of the group project to different group members and you are unable to incorporate each member's contributions into a single essay, each group member's individual submission must follow the same format, as outlined above.

Identifying, Evaluating, Incorporating, and Citing Sources of Information

- Source identification and evaluation strategies will be discussed during class.
- Your short essay will bring together information from multiple sources in an effort to shed light on your chosen topic. You are expected to use at least 4 sources (in addition to your textbook), and no single source should provide more than $1/5^{th}$ of the materials in your essay.
- Your essay will include in-text citations of all sources used, at the appropriate place(s) in the essay, and a "References" section at the end of the essay, listing full citations of all sources used (alphabetically by (first) author's last name). More specifically:

Citation format

The citation format should follow the APA style standard.
Detailed examples of the APA style standard can be found at the bottom of the following Web page: http://owl.english.purdue.edu/handouts/research/r_apa.html (Purdue University).
This Web page also provides additional useful information on essay writing. You are strongly encouraged to explore the navigation links to the right of this page for instructions relevant to your task.
For further assistance visit the Writing Center http://www.colum.edu/Academics/Learning_Studio and ask one of the reference librarians at the College Library http://www.lib.colum.edu.

Source citation examples:

a) **In-text citations**
Regardless of source type, in-text citations will be placed in parentheses and only include the author's last name and year of publication. If you quote an author word-by-word, the in-text citation must also include page number(s).
Example 1 (1 author): (Plack, 2005)
Example 2 (2 authors): (DeMorest and Morrison, 2000)
Example 3 (3 or more authors): (Deutsch et al., 2004) [Deutsch is the first of 3 authors]
Example 4 (1 author & word-by-word quotation): (Plack, 2005: 34-35)

b)   **Full citations listed in the "References" section**
Example 1 (Book)
Plack, C.J. (2005). *The sense of hearing*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
Example 2 (Book chapter in an edited collection of chapters)
Dowling, W.J. (1999). The development of music perception and cognition. In *The Psychology of Music* (2nd edition), D. Deutsh (Ed.). San Diego: Academic Press.
Example 3 (Journal article)
Deutsch, D., Henthorn, T., and Dolson, M. (2004). Absolute Pitch, Speech, and Tone Language: Some Experiments and a Proposed Framework. *Music Perception*, 21(3): 339-356.

Sample Research Project Topics from Past Students

Focus on Physics

- Active Noise Control
- From Waves to Sounds to Electrical Signals

Focus on Physiology

- Auditory Correlates of Predator/Prey Status
- Cochlear Implants
- Genetic and Conductive Hearing Loss
- Hearing Mechanism Malfunctions
- Noise-Induced Hearing Loss
- Sensorineural Hearing Loss
- Sound Production and Reception in Whales
- Outer Ear Structure in Pray Vs. Predator

Focus on Psychoacoustics
(examining perception in terms of the interaction between wave physics and ear physiology)

- Aural Localization Synthesis
- Human Echolocation
- Natural versus Synthetic Sounds in Speech and Music Perception
- Neural and Perceptual Correlates of Sound Localization
- Perceptual Aspects of Lossy Data Compression
- Perceptual Coding: The Use of Psychoacoustics in Audio Data Compression
- Psychoacoustic Review of Noise Pollution
- Psychoacoustics of Dynamic Audio Compression
- Psychoacoustics of Stereo Mixing Techniques
- Review of Sound Localization Processes
- Stereo and 3D Audio Imaging

Focus on Cognition
(enriching psychoacoustic examinations of perception with advances in cognitive psychology)

- Dissonance: Historical, Cultural, and Psychoacoustic Dimensions
- Physiological and Cognitive Disorders in Sound and Music Perception: Amusia and Musical Hallucinosis
- Sound as a Weapon
- Speech Production/Analysis/Synthesis/Recognition
- Tuning and Aesthetic Differences in 4 Musical Traditions