**FLORIDA INSTITUTE OF TECHNOLOGY**

**COLLEGE OF AERONAUTICS**

**AHF 5202 – HUMAN PERFORMANCE 2  
(Online)**

**Course Outline**

**Spring 2021**

**Instructor**: Dr. John E. Deaton

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**Office Hours**: Email me and we can always set up a time to teleconference.

**Course Description:** The objective of this course is to provide the student the opportunity to develop a human factors research proposal. The final proposal to be submitted for this class could be used to obtain future grant funding, or, in the case of those students going on to complete their thesis, the final proposal may be the roadmap that is used to complete your thesis. For most of you, this is your capstone course and it is critical that you learn how to develop a research proposal given that this is a skill that is likely to be required depending upon your specific job position. As such, the student will become familiar with a body of research in the domain of human factors that may stimulate further inquiry and for a few of you lead to a completed thesis. As a result of this process, the student will develop in-depth knowledge of an area of human factors. The areas that may be of interest to students include, but are not limited to, information processing models; learning and memory, mental models and schema theory; human error; attention; workload; automation; and knowledge elicitation for expert system development. These are all general human factors areas that may be applied to the development of a specific thesis topic. The key point is that whatever topic you select to investigate should have some connection to a human factors area. You may have taken several courses (i.e., Aviation Safety Analysis and Aviation Statistics as well as the other human factors content areas) that have prepared you to embark upon this final research effort. The difference here is that you will be developing a complete proposal (minus cost estimates).   
  
**Course Learning Objectives:**

At the completion of this course, students will be able to

* Develop an annotated reference list associated with the topic of your choice
* Develop a literature review that summarizes a human factors topic
* Identify research gaps in the literature that could lead to an eventual thesis topic or submission as a funded grant proposal
* Identify the important elements that should be included in a research proposal (e.g., Introduction, Purpose Statement, Research Questions/Hypothesis and Methodology)
* Demonstrate knowledge of APA formatting regulations
* Presentation of a proposed topic to class peers
* Improve critical writing skills with completion of a proposal

**Required Texts:**  
American Psychological Association. (2020). *Publication manual of the American Psychological Association (7th ed.).* Washington, DC: Author. (Note: You can get by just using good website for this purpose, but I would recommend the purchase of this manual for future use)  
  
Creswell, J. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches (5th Ed.).*  Sage Publications.  ISBN 13:  978-1506386706   ISBN 10:  1506386709

<https://www.amazon.com/dp/1506386709/ref=sr_ob_5?ie=UTF8&qid=1512927853&sr=8-5>

**Overall Grading:**

You will basically have two areas in which you will be evaluated; these two areas include discussion posts and your course assignments. They will be weighted as follows:  
  
Discussion Posts (40%)  
Course Assignments—7 (60%)

**Course Assignments**: (see description of assignments below)

1) Annotated Reference List  
2) Literature Review

3) Introduction, Purpose Statement, Research Questions/Hypotheses

4) Methods Section

5) Draft Proposal

6) Powerpoint Presentation of Draft Proposal

7) Final Proposal

**Grading Policy**:

1) Annotated Reference List (10%)  
2) Literature Review (15%)

3) Introduction, Purpose Statement, Research Questions/Hypotheses (10%)

4) Methods Section (15%)

5) Draft Proposal (15%)

6) Powerpoint Presentation of Draft Proposal (10%)

7) Final Proposal (25%)

**Instructional Procedures**: This course will be designed to prepare the student to conduct independent research leading to either a credible proposal submission to a funding authority or the thesis requirement for the Master’s degree in Aviation Human Factors. As such, students will be required to develop their own reading list (annotated reference list) consisting of materials (journal articles, books, etc.) that sufficiently summarizes the body of literature in a primary field within the domain of human factors. Students should use this course to select sources that provide background and understanding of an area that the student wishes to pursue as part of this class requirement or for personal interests. If pursued in this manner, this class should afford the student with the opportunity to develop knowledge of an area within human factors that might be applicable to formulating a thesis proposal or submission as a proposal to secure grant funding.

*Annotated Reference List*Similar to your typical reference listing except you will provide a brief summary of each article in this list. All citations must follow APA standards. This will be a listing of sources you have read associated with the topic of your proposal. While you will submit this document for a grade in Week/Unit 5, it is expected that you will be adding additional references to this list as you continue working on your proposal. An example of this assignment will be provided to you in the Week/Unit 3 area of the course.

*Literature Review*  
A literature review is a critical part of any proposal. Thus, in developing your proposal you will be expected to do a thorough literature review of the topical area you have selected. An example of this assignment will be provided to you in the Unit 5 area of the course.

*Introduction, Purpose Statement, Research Questions/Hypotheses*

The Introduction, including purpose statement and research questions and/or hypotheses is the “front-end” to any proposal. You will spend several weeks working on this section of your proposal. An example of this assignment will be provided to you in the Unit 7 area of the course.

*Methods Section*The methods section of any proposal is where you detail how you plan on conducting your study. It is the core of any proposal, and the part of a proposal that is probably most critically evaluated. You will begin developing your proposed methodology in Unit 11.

*Draft Proposal*

In Unit 13 you will submit a draft proposal for my feedback. This draft will include all sections of your proposal. The feedback I provide at this stage will be integrated into your final proposal.

*Powerpoint Presentation of Draft Proposal*

Presenting your proposed study to colleagues (in this case, student peers) is a critical aspect that professionals working in the field of human factors must learn. That is, you need to be able to communicate to others the importance of your research and how you plan on accomplishing your investigation. You will have that opportunity in Unit 14 in which you will submit a Powerpoint presentation of your proposal. An example of this assignment will be provided to you in the Unit 14 area of the course.

*Final Proposal*

You will submit your final proposal in Unit 15. Examples of final proposals will be provided in the Unit 1 folder. Review these carefully! They will give you the “Big Picture” before you get started.

Cheating/Plagiarism and Academic Dishonesty  
[University academic honesty standards](https://www.fit.edu/policies/student-handbook/standards-and-policies/academic-honesty/) will be strictly enforced. Incidents shall be treated in accordance with university policy as outlined in the [Student Handbook](https://www.fit.edu/policies/student-handbook/). For a review of plagiarism, see this FIT Library [website](http://libguides.lib.fit.edu/plagiarism).

Title IX: Title IX of the Education Amendments of 1972 is a federal civil rights law that prohibits discrimination on the basis of sex in federally funded education programs and activities.  Florida Institute of Technology policy also prohibits discrimination on the basis of sex.

Florida Tech faculty are committed to helping create a safe learning environment for all students that is free from all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking.  If you, or someone you know, have experienced or is experiencing any of these behaviors, know that help and support are available.

Florida Tech strongly encourages all members of the community to take action, seek support, and report any incident of sexual harassment or gender discrimination to Fanak Baarmand, Title IX Coordinator at 321-674-8885 or [fbaarman@fit.edu](mailto:fbaarman@fit.edu).

Please note that as your professor, I am required to report any incidents to the Title IX Coordinator.  If you wish to speak to an employee who does not have this reporting responsibility, please contact the Student Counseling Center at 321-674-8050.

**Important Dates – Spring 2021**Spring Semester Classes Begin—Jan 11  
Holiday (Martin Luther King)—Jan 18  
Last Day to Drop a Class with Full Tuition and without Receiving a W—Jan 20  
Last Day to Withdraw from a Course with a W—Mar 19  
Last Day of Spring 2021 Classes—Apr 21

**Class Schedule**

**Folder – Unit 1: Week of 11 Jan** *Developing a Proposal: How Do You Do It?*  
Reading—<http://libguides.usc.edu/content.php?pid=83009&sid=2319840>

Read the page that opens when you click on the link (Writing a Research Proposal). Then proceed to read the red taps 1-11 at the top of the page, and also the tab associated with the Annotated Bibliography.

Discussion—Based on the readings from the above website, what do you think would be the greatest challenge you would face in developing a research proposal, and how could you successfully overcome that challenge?

**Folder – Unit 2: Week of 18 Jan**  
 *Selecting a Topic*Reading—Explore different topics; skim relevant journals/books/internet sources. Go back to the readings of the courses you have completed under this program as another source to get ideas. Direct your reading toward a topic you have an initial interest.  
Discussion—Discuss in one or two paragraphs, what topical area in human factors  
appeals to you the most. That is, present, in a general fashion, an area you would like to do research if given the opportunity.  
  **Folder – Unit 3: Week of 25 Jan**  
 *Developing an Annotated Reference List*Reading—Continue reading but begin to target a specific topic of interest.  
Discussion—Discuss, in more specific detail, the topic you have selected to  
develop for your research proposal.

Assignment—Begin work on the Annotated Reference List  
  
**Folder – Unit 4: Week of 1 Feb** *The Selection of a Preliminary Research Design*Text—Chapter 1: The Selection of a Research Design  
Review—Powerpoint summary of Chapter 1

Discussion—Given the topic you have selected for your research proposal, which  
research design (quantitative, qualitative, or mixed methods) do you think is most appropriate for the study you would conduct. Specify why you selected this specific design and not the others. Note: You may change this design later as you start to design your study, but for now, discuss what you **think** will be the best fit.

Assignment—Continue working on the Annotated Reference List  
 **Folder – Unit 5: Week of 8 Feb** *Writing a Literature Review*  
Text—Chapter 2: Review of the Literature  
Text—Chapter 3: The Use of Theory  
Review—Powerpoint summary of Chapter 2 and 3   
Discussion—Using an online computer database to search for the literature on  
your topic, pick one article you found related to your topic, and present a summary of that article in two or three paragraphs. Indicate how this article is related to your topic.  
Assignment—Begin writing the Literature Review

\*\*Assignment—Submit Annotated Reference List\*\*

**Folder – Unit 6: Week of 15 Feb** *Writing the Proposal*  
Text— Chapter 4: Writing Strategies and Ethical Considerations   
Discussion—Discuss any ethical issues you think may be pertinent to the study  
 you are proposing to conduct. Don’t say “none” since every study has some ethical issues, otherwise why submit to the IRB (Institutional Review Board)?

**Folder – Unit 7: Week of 22 Feb** *The Introduction*  
Text—Chapter 5: The Introduction   
Review—Powerpoint summary of Chapter 5

Discussion—Discuss three or four reasons why your proposed study will contribute to the scholarly research and literature in the field. This is a critical element of your Introduction.   
Assignment—Begin work on the Introduction, Purpose Statement, Research Questions and Hypotheses (focus on the Introduction this week)  
\*\*Assignment—Submit the Literature Review\*\*

**Folder – Unit 8: Week of 1 Mar** *The Purpose Statement*  
Text—Chapter 6: The Purpose Statement  
Review—Powerpoint summary of Chapter 6

Discussion—In one paragraph only, describe the purpose of your proposed study.

Assignment—Continue working on Introduction, Purpose Statement, Research Questions and Hypotheses (focus on the Purpose Statement this week)

**Folder – Unit 9: Week of 8 Mar** *Research Questions and Hypotheses*  
Text—Chapter 7: Research Questions and Hypotheses  
Review—Powerpoint summary of Chapter 7

Discussion—Present the research questions and/or hypotheses of your proposed study. Remember, qualitative studies generally don’t include hypotheses since they are not structured to evaluate hypotheses. Qualitative studies focus more on the research questions that are to be investigated.

Assignment—Continue working on the Introduction, Purpose Statement, Research Questions and Hypotheses (focus on the Research Questions/Hypotheses this week)

**Folder – Unit 10: Week of 15 Mar** *Quantitative/Qualitative/Mixed Methods*  
Text—Chapter 8: Quantitative Methods; Chapter 9: Qualitative Procedures;

Chapter 10: Mixed Methods Procedures  
Review—Powerpoint summaries of Chapters 8, 9, and 10

Discussion—Briefly discuss (in no more than three paragraphs) the design you have selected for your proposed study and the rationale for selecting this design.

\*\*Assignment—Submit Introduction, Purpose Statement, Research Questions/Hypotheses\*\*

**Folder – Unit 11: Week of 22 Mar** *Writing the Methodology Section*Discussion—Present any questions you have about your methods section for peer and instructor feedback.

Assignment—Begin writing the Methods section

**Folder – Unit 12: Week of 29 Mar** *Writing the Methodology Section (con’t)* Discussion—What were the challenges you found in writing the methods section.

\*\*Assignment—Submit the Methods section\*\*

**Folder – Unit 13: Week of 5 Apr** *Putting It All Together*Discussion—Which section (Introduction, Literature Review, or Methods) did you find the most difficult and why?

\*\*Assignment—Submit rough draft of proposal (Introduction, Purpose Statement,

Research Questions/Hypotheses, Literature Review, and Methods)\*\*  
   
**Folder – Unit 14: Week of 12 Apr** *Presenting Your Proposal: Powerpoint Presentation*  
Discussion—Briefly summarize your proposed study and attach your Powerpoint presentation to your discussion.

\*\*Assignment—Submit Powerpoint Presentation\*\*

**Folder – Unit 15: Week of 19 Apr** *Finalizing Your Proposal*Discussion—Now that you have completed your proposal, what did you learn? That is, what did you learn about the process of developing a proposal; i.e., “lessons learned”?

\*\*Assignment—Submit Final Proposal\*\*

**Discussion Rubric / Grading Criteria**

**Florida Institute of Technology**

**College of Aeronautics**

**Online Course: AHF 5202 Human Performance 2**

The following rubric is intended as a guideline for participation and grading of the discussion questions provided during the semester for this course. Discussion questions are weekly events in this online course and are meant to provide a forum in which students can interact with the Professor and other students in an effort to enhance in-class discussion and debate on weekly current topics.

**Above Average (80 – 100):**

Discussion should be scholarly in nature and reflect graduate level knowledge and experience. Writing and sentence structure should be clear and free of grammar, spelling, and punctuation errors. Dialogue and information presented should be from reputable and peer-reviewed sources, and all references should be cited. The discussion should reflect a clear understanding of the topic area being discussed and should include clear and complete thoughts.

**Average (60 – 79):**

The discussion demonstrates limited interpretation and analysis of the topic area being discussed and does not include cited works and references as a source of credible information. The discussion contains mostly opinion and references from work experience, but little or no supporting evidence. Writing and sentence structure is good. Any errors in grammar, spelling, or punctuation are minimal and do not interfere with the message being conveyed.

**Below Average (0 – 59):**

Information provided by the student generally show little evidence of comprehension of the assigned material or little evidence that the student has put the effort forward to read and properly analyze the assigned chapters or reading materials. Analysis and discussion generally consist of unsubstantiated opinion, feelings, and impressions. Sentences and responses are limited to one word or one sentence responses such as “I agree.” These type of responses show little effort and do not provide evidence of any level of comprehension of the material.

**Proposal Rubric / Grading Criteria  
Florida Institute of Technology**

**College of Aeronautics**

**Online Course: AHF 5202 Human Performance 2**

The following elements will be evaluated in your proposal. Proposals may not have all of these elements as shown. Use these as a guide as to what should be included in each section/chapter of your proposal.

**Chapter 1**

**(for Proposal)**

| **Quality Indicators** |
| --- |
| 1. Abstract    1. For the proposal, abstract contains a concise description of the study, a brief statement of the problem, exposition of methods and procedures.    2. For the thesis abstract also includes a summary of findings and implications. |
| Comments: |
| 1. The Introduction section has a clear statement demonstrating that the focus of the study is on a significant problem that is worthy of study. There is a brief, well-articulated summary of research literature that substantiates the study, with references to more detailed discussions in Chapter 2. |
| Comments: |
| 1. In quantitative studies the Problem Statement concisely states what will be studied by describing at least two variables and a conjectured relationship between them. In qualitative studies the Problem Statement describes the need for increased understanding about the issue to be studied. |
| Comments: |
| * + 1. The Nature of the Study, Specific Research Questions, Hypotheses, or Research Objectives (as appropriate for the study) are briefly and clearly described. Reference is made to more detailed discussions in Chapter 3. |
| Comments: |
| * + 1. The Purpose of the study is described in a logical, explicit manner. |
| Comments: |
| * + 1. In quantitative studies the theoretical base or in qualitative studies the conceptual framework shows which ideas from the literature ground the research being conducted. |
| Comments: |
| * + 1. Operational Definitions of technical terms, jargon, or special word uses are provided. |
| Comments: |
| * + 1. Assumptions, Limitations, Scope and Delimitations provide descriptions of  1. facts assumed to be true but not actually verified,    1. potential limitations of the study. |
| Comments: |
| * + - 1. The Significance of the Study is described in terms of its contribution to knowledge generation. |
| Comments: |
| * + - 1. Chapter 1 ends with a Transition Statement that contains a summary of key points of the study and an overview of the content of the remaining chapters in the study. |
| Comments: |

**Chapter 2**

| **Quality Indicators** |
| --- |
| 1. There is an Introduction that describes    1. the content of the review,    2. the organization of the review, and    3. the strategy used for searching the literature. |
| Comments: |
| 1. The review of related research and literature is clearly related to the problem statement as expressed in    1. research questions and hypotheses, or    2. study questions and study objectives. |
| Comments: |
| 1. The review of related research and literature includes    1. comparisons/contrasts of different points of view or different research outcomes,    2. the relationship of the study to previous research |
| Comments: |
| 1. The review contains concise summaries of literatures that help    * 1. define the most important aspects of the theory that will be examinedor tested (for quantitative studies), or      2. substantiate the rationale or conceptual framework for the study (for qualitative studies). |
| Comments: |
| 1. The content of the review is drawn from acceptable peer-reviewed journals or sound academic journals or there is a justification for using other sources. Primary sources are used |
| Comments: |
| 1. Literature related to the method(s) is reviewed. |
| Comments: |
| 1. Literature related to the use of differing methodologies to investigate the outcomes of interest is reviewed |
| Comments: |
| 1. The review is an integrated, critical essay on the most relevant and current published knowledge on the topic. The review is organized around major ideas or themes. |
| Comments: |

**Chapter 3**

| **Quality Indicators** |
| --- |
| 1. Introduction includes a clear outline of the major areas of the chapter. |
| Comments: |
| 1. Research Design and approach:    1. Includes a description of the research design and approach.    2. Provides justification for using the design and approach.    3. Derives logically from the problem or issue statement. |
| Comments: |
| 1. Setting and Sample:    1. Describes the population from which the sample will be drawn.    2. Describes and defends the sampling method including the sampling frame used.    3. Describes and defends the sample size.    4. Describes the eligibility criteria for study participants.    5. Describes the characteristics of the selected sample. |
| Comments: |
| 1. If a treatment is used, it is described clearly and in detail. |
| Comments: |
| 1. Instrumentation and Materials    1. Presents descriptions of instrumentation or data collection tools to include       1. name of instrument,       2. type of instrument,       3. concepts measured by instrument,       4. how scores are calculated and their meaning,       5. processes for assessment of reliability and validity of the instrument(s),       6. processes needed to complete instruments by participants,       7. where raw data are or will be available (appendices, tables, or by request from the researcher).    2. Includes a detailed description of data that comprise each variable in the study. |
| Comments: |
| 1. Data Analysis:    1. Includes an explanation of descriptive and/or inferential analyses used in the study.       1. Nature of the scale for each variable.       2. Statements of hypotheses related to each research question.       3. Description of parametric, nonparametric, or descriptive analytical tools used.    2. Includes description of any pilot study results, if applicable. |
| Comments: |
| 1. Measures taken for protection of participants’ rights are summarized. |
| Comments: |