To: UGCC members

From: Victoria Dunbar, College of Aeronautics

Re: Adding 5 New Course to the Curriculum – AHF 3000, AHF 3001, AHF 4301, AHF 4303, and AHF 4304

Date: February 20, 2015

The College of Aeronautics is requesting Undergraduate Curriculum Committee approval for adding 5 new courses. Once all these courses are approved, we will have all of the courses we need to introduce a new curriculum in Aviation Human Factors.

1. AHF 3000 Sensation and Perception serves as an advanced introduction to the field of sensation and perception in aviation. Discusses the theories and principles to explain what we sense and perceive in the real world, with a particular focus in aviation.

2. AHF 3001 Human-Machine Systems serves as an advanced introduction to the field of human-machine systems (HMS). Discusses the theories and principles that help to explain human-machine interaction. Also discusses how HMS experts build theories (or models) of mental processes.

3. AHF 4301 Human Performance 1 serves as an advanced introduction to the field of human performance. Presents the scientific study of the interaction between human and machines. Discusses human-machine interaction and how it affects daily life.

4. AHF 4303 Usability and Design introduces the field of aviation usability and design. Presents and analyzes usability and design issues in general applications, emphasizing the aviation industry and aircraft systems. Includes such topics as usability testing, heuristics and assessment methods.

5. AHF 4304 Applied Ergonomics introduces the field of applied ergonomics. Presents and analyzes ergonomic issues in general applications. Emphasizes the aviation industry and aircraft systems. Includes such topics as human-centered design, senses and systems of the human body, and anthropometry.
New courses are available beginning with the fall term in which they appear in the University Catalog.

Subject: A
Course No.: 43000
Credit Hours: 3
Academic Year to be Added to the File: Fall 2016

Class Hours: 45/Semester
Lecture Hours: 45/Semester
Lab Hours: __________
Contact Hours: CEU Only

Department: Aviation Studies
Schedule Type: Lecture (A)

College of Aeronautics – 23
College of Psychology and Liberal Arts – 25
Nathan M. Bisk College of Business – 24
College of Science – 26
College of Engineering – 1
Extended Studies / Nathan M. Bisk College of Business – 90

Computer Title: Restricted to 25 characters, including spaces
Sensation and Perception

Catalog Title: Sensation and Perception in Aviation

Catalog Description of Course: Restricted to 350 characters, including spaces
Serves as an advanced introduction to the field of sensation and perception in aviation. Discusses the theories and principles to explain what we sense and perceive in the real world, with a particular focus on aviation.

This description has been approved by the catalog office: Catalog & Curriculum Manager

In addition, please attach a course syllabus and/or more detailed description.

Restrictions:
Prerequisite: AHF 1101
Corequisite: __________

Prerequisite: PSY 1411
Corequisite: __________

Additional Restriction:
(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date from which the course may be removed from the system.

Subject: Alpha Prefix (e.g., CSE)
Course No.: 43000
Term to Inactivate:

Yes  No  Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.

Yes  No  Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

Yes  No  Will this course impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

Approvals: On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Originator: Date 2/20/15
Department Head/Program Chair: Date 2/20/15
Dean or Associate Dean: Date 2/20/15
Chair, Graduate Council: Date
Chair, Undergraduate Curriculum Committee: Date

**Vice President for Institutional Effectiveness: Date

Catalog & Curriculum Manager: Date

Registrar’s Use Only:
SCADSE  SCADTL  SCAPREQ  SCABASE
SCARRIES  Operator Init.  Date

Florida Institute of Technology - Office of the Registrar
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827
FLORIDA INSTITUTE OF TECHNOLOGY
COLLEGE OF AERONAUTICS
AHF 3000—Sensation and Perception

Course Outline

Instructor: Dr. xxxxxxxx
Phone: xxxxxxxx

Time/Room xxxxxxxxxx

Office Hours: xxxxxxxxxx

Office hours available by appointment—contact your instructor.
Note: My office is located in Skura in the College of Aeronautics Office


Course Description: This course serves as an advanced introduction to the field of Sensation and Perception in Aviation. Throughout the course, we will discuss theories and principles that help to explain what we sense and perceive in the real world. We will discuss how perception experts build theories (or models) of processes, and how these theories are used to understand and sometimes predict behavior in human factors research. Topics included in the course are research methods, design, sensory systems, perception, workload, and human factors applications.

Online Memo:
In order to meet the 45 contact hour requirement, this course uses online classroom discussions. Students are expected to post an initial question and answer from a topic of their choosing for each chapter. Students are also expected to continue the discussion about their topic and respond to all queries from other students. Students are further expected to read other students' topics and make at least two responses to other topics. These initial posts and response posts must be substantive and well-constructed. Additional topics will occasionally be posted along with a large article that students must read which will enhance the learning experience. The instructor leads and facilitates all discussion.

Course Learning Objectives:
At the completion of this course, students will be able to:

- Relate key research findings to S&P theories and principles
- Understand research methods in S&P, including their strengths and weaknesses
- Describe current issues in S&P research
- Explain some of the broader implications of findings from S&P
Course Requirements:

(1) Assignments: Detailed information can be seen in the Assignments forum.
(2) Discussions. You must be active. HF experts are expected to voice their opinions, and so are you. You are required to post at least one response post per week in the course. Please see the instructions in the Discussion forum for more details on grading.

Grading Policy:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Mid-term Paper</td>
<td>25%</td>
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<tr>
<td>Final Paper</td>
<td>25%</td>
</tr>
<tr>
<td>Discussion</td>
<td>50%</td>
</tr>
</tbody>
</table>

Final grade rubric:

89 to 100% = A  
79 to 89 = B  
69 to 79 = C  
59 to 69 = D  
< 59 = F

Instructional Procedures: The student will be held responsible for information contained in the assigned chapters, as well as for information contained in course discussions, etc. IT IS IMPORTANT THAT YOU READ AND STUDY THE ASSIGNED MATERIAL BEFORE POSTING TO THE DISCUSSION FORUM!!!

- I will use Angel to post all presentations and any handouts. You need to check this regularly for special announcements.
- Missed assignments cannot be made up without an official excused absence.
- I'm here to help you understand this material. Call me, email me, or come by my office if you have any questions or concerns.
Cheating/Plagiarism and Academic Dishonesty

Academic dishonesty is taken very seriously by the university and is not condoned by any member of the university. Examples of academic dishonesty include (but are not limited to): academic cheating, plagiarism, cheating by using computers, and breaches of professional integrity. Such incidents shall be treated in accordance with university policy as outlined in the Student Handbook. Specifically, I will give you a zero for the assignment and an F for the course.

Disability Issues

I take disability issues very seriously. Please read the FIT official handbook for more details on disability issues. If you choose to disclose to me, I will keep it confidential and do whatever I can to accommodate your needs according to the official policies of FIT.
### Class Schedule (days are subject to change as needed)

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topics</th>
<th>Readings</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to Perception</td>
<td>Chapter 1</td>
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<tr>
<td>2</td>
<td>Beginnings of Perception</td>
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<td>3</td>
<td>Neural Processing</td>
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<td>Cortical Organization</td>
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<td>Perceiving Objects and Scenes</td>
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<td>6</td>
<td>Visual Attention</td>
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<td>7</td>
<td>Taking Action</td>
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<td>Perceiving Motion</td>
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**Mid-term Paper Due XX/XX**

**Spring Break (XX- XX)**

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<tr>
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<td>Perceiving Color</td>
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<td>10</td>
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<td>Hearing</td>
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<td>12</td>
<td>Auditory Localization</td>
<td>Chapter 12</td>
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<td>13</td>
<td>Speech Perception</td>
<td>Chapter 13</td>
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<td>14</td>
<td>Touch and Smell</td>
<td>Chapters 14-15</td>
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**Final Paper due XX/XX**
**Florida Institute of Technology**

**ADDING A NEW COURSE TO THE CURRICULUM**

This is a request for reactivation of a course in the system. ☐ Yes  ☐ No

**New courses are available beginning with the fall term in which they appear in the University Catalog.**

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>A</th>
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<th>F</th>
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<th>0</th>
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<th>ACADEMIC YEAR TO BE ADDED TO THE FILE</th>
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<td>(e.g., 1301)</td>
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*Justify level if 1000-level+ and no co- or prerequisites

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<td>(e.g., Lecture, Lab or Special Topics/Project)</td>
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☐ COLLEGE OF AERONAUTICS – 23
☐ NATIHN M. BISK COLLEGE OF BUSINESS – 24
☐ COLLEGE OF ENGINEERING – 1

☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25
☐ COLLEGE OF SCIENCE – 26
☐ EXTENDED STUDIES / NATIHN M. BISK COLLEGE OF BUSINESS – 90

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<th>COMPUTER TITLE</th>
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<th>Human-Machine Systems</th>
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| CATALOG TITLE | Human-Machine Systems | Dual-Prefix | ☐ | Bi-Level | ☐ | Full-Load | ☐ |

**CATALOG DESCRIPTION OF COURSE** Restricted to 350 characters, including spaces

Serves as an advanced introduction to the field of human-machine systems (HMS). Discusses the theories and principles that help to explain human-machine interaction. Also discusses how HMS experts build theories (or models) of mental processes.

This description has been approved by the catalog office ___________ 2/19/2015

Catalog & Curriculum Manager Date

In addition, please attach a course syllabus and/or more detailed description.

<table>
<thead>
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<th>RESTRICTIONS</th>
<th>Prerequisite</th>
<th>A HF 1101</th>
<th>Corequisite</th>
<th>Course Number</th>
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<table>
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<th>Corequisite</th>
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EGR: A, B, C, D, F
☐ A, B, C, D, F, CEU/Audit
☐ CEU
☐ S, U
☐ P, F
☐ Other

**ADDITIONAL RESTRICTION**

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

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<th>COURSE NO.</th>
<th>(e.g., 1301)</th>
<th>TERM TO INACTIVATE</th>
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☐ Yes  ☐ No  Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.**

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☐ Yes  ☐ No  Will this course impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

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<th>Originator</th>
<th>2/20/15</th>
<th>Date</th>
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Department Head/Program Chair

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<th>2/20/15</th>
<th>Date</th>
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</table>

Dean or Associate Dean

<table>
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<tr>
<th>2/20/15</th>
<th>Date</th>
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</table>

☑ Yes  ☐ No  **Vice President for Institutional Effectiveness**

**CATALOG & CURRICULUM MANAGER**

These changes/additions have been made for the University Catalog and entered into the BANNER term named above.

Catalog & Curriculum Manager Date

**REGISTRAR’S USE ONLY**

<table>
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<tr>
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<th>SCAPREQ</th>
<th>SCABASE</th>
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</table>

Florida Institute of Technology • Office of the Registrar

150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827

ROR: 216-114
FLORIDA INSTITUTE OF TECHNOLOGY  
COLLEGE OF AERONAUTICS  
AHF 3001—Human-Machine Systems  

Course Outline

Instructor: Dr. xxxxxxxx  
Phone: xxxxxxxx  

Time/Room: xxxxxxxxxx  

Office Hours: xxxxxxxxxx

Office hours available by appointment—contact your instructor.

Note: My office is located in Skurala in the College of Aeronautics Office

Text: Salas, Maurino: Human Factors in Aviation.

Course Description: This course serves as an advanced introduction to the field of human-machine systems (HMS). In the most general terms, this is the scientific study of the interaction between humans and machines. We'll spend much of our time discussing human-machine interaction and how it affects daily life. Throughout the course, we will discuss theories and principles that help to explain human-machine interaction. We will discuss how HMS experts build theories (or models) of mental processes, and how these models are used to understand and predict behavior when interacting with machines. Topics included in the course are research methods, design, sensory systems, cognition, displays, workload, safety, and human-computer interaction.

Course Learning Objectives:  
At the completion of this course, students will be able to:

- Relate key research findings to HMS theories and principles  
- Understand research methods in HMS, including their strengths and weaknesses  
- Describe current issues in HMS research  
- Explain some of the broader implications of findings from HMS  
- Be able to redesign flawed HMSs
Course Requirements:
(1) Assignments: Detailed information can be seen in the Assignments forum.
(2) Discussions. You must be active. HMS experts are expected to voice their opinions, and so are you. You are required to post at least one response post per week in the course. Please see the instructions in the Discussion forum for more details on grading.

Grading Policy:

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<tr>
<th></th>
<th>Project</th>
<th>50% (25% for midterm paper and 25% for final paper)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion</td>
<td>50%</td>
<td></td>
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</tbody>
</table>

Final grade rubric:

90 to 100% = A  
80 to 89  = B  
70 to 79  = C  
60 to 69  = D  
< 60      = F

Instructional Procedures: The student will be held responsible for information contained in the assigned chapters, as well as for information contained in course discussions, etc. IT IS IMPORTANT THAT YOU READ AND STUDY THE ASSIGNED MATERIAL BEFORE POSTING TO THE DISCUSSION FORUM!!

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- I'm here to help you understand this material. Call me, email me, or come by my office if you have any questions or concerns.
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<tbody>
<tr>
<td>1</td>
<td>Introduction to HMS</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>2</td>
<td>The System Perspective</td>
<td>Chapter 2</td>
</tr>
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<td>3</td>
<td>The System Safety Perspective</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>4</td>
<td>Information Processing</td>
<td>Chapter 7</td>
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<td>5</td>
<td>Decision Making</td>
<td>Chapter 7</td>
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<td>6</td>
<td>Managing Workload, etc.</td>
<td>Chapter 8</td>
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<td>7</td>
<td>Team Dynamics</td>
<td>Chapter 9</td>
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Mid-term paper due xx/xx

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<tr>
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**XX/XX**  
*Fall Break*

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<td>Chapter 14</td>
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<td>10</td>
<td>Automation</td>
<td>Chapter 15</td>
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<td>11</td>
<td>Unmanned Aerial Systems</td>
<td>Chapter 16</td>
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<td>General Aviation</td>
<td>Chapter 19</td>
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<td>13</td>
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Final Assignment due xx/xx
New courses are available beginning with the fall term in which they appear in the University Catalog.

SUBJECT A H F COURSE NO.* 4 3 0 1 CREDIT HOURS 3 ACADEMIC YEAR TO BE ADDED TO THE FILE Fall 2016
(e.g., CSE) (e.g., 1301) (e.g., Fall 2016)

*Justify level if 1000-level+ and no co- or prerequisites

CLASS HOURS 45/Semester LECTURE HOURS 45/Semester LAB HOURS CONTACT HOURS (CFU ONLY)

DEPARTMENT Aviation Studies SCHEDULE TYPE Lecture (A)
(e.g., Computer Sciences) (e.g., Lecture, Lab or Special Topics/Project)

☐ COLLEGE OF AERONAUTICS - 23
☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS - 24
☐ COLLEGE OF SCIENCE - 26
☐ COLLEGE OF ENGINEERING - 1
☐ EXTENDED STUDIES / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPUTER TITLE Restricted to 25 characters, including spaces Human Performance 1 Dual-Prefix □ Bi-Level □ Full-Load □

CATALOG TITLE Human Performance 1

CATALOG DESCRIPTION OF COURSE Restricted to 350 characters, including spaces
Serves as an advanced introduction to the field of human performance. Presents the scientific study of the interaction between humans and machines. Discusses human-machine interaction and how it affects daily life.

This description has been approved by the catalog office ___________________________ Date 2/19/2015

Catalog & Curriculum Manager

In addition, please attach a course syllabus and/or more detailed description.

REQUIREMENTS

Prerequisite AHF 1101
Course Number

Prerequisite PSY 1411
Course Number

Prerequisite AHF 3101
Course Number

Corequisite
Course Number

Corequisite
Course Number

Corequisite
Course Number

Corequisite
Course Number

An additional restriction Junior Standing

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSE) COURSE NO. (e.g., 1301) TERM TO INACTIVATE

☐ Yes ☐ No Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.xx

☐ Yes ☐ No Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach “Q” materials for review.

☐ Yes ☐ No Will this course impact any existing programs? If yes, attach “Changing Graduation Requirements” form for each program that is impacted.

APPROVALS: On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Originator Date 2/7/15

Chair, Graduate Council Date

Department Head/Program Chair Date 2/19/15

Dean or Associate Dean Date 2/20/15

Chair, Undergraduate Curriculum Committee Date

xx Vice President for Institutional Effectiveness
FLORIDA INSTITUTE OF TECHNOLOGY
COLLEGE OF AERONAUTICS
AHF 4301—Human Performance 1

Course Outline

Instructor: Dr. xxxxxxxxxxx
Phone: xxxxxxxxx

Time/Room: xxxxxxxxxxx
xxxxxxxxxxxx

Office Hours: xxxxxxxxxxx

Other office hours available by appointment—contact your instructor.
Note: My office is located in Skurla in the College of Aeronautics Office

October 17, 2012 by Christopher D. Wickens (Author), Justin G. Hollands (Author),
Raja Parasuraman (Author), Simon Banbury (Author).

Course Description: This course serves as an advanced introduction to the field of
Human Performance. In the most general terms, this is the scientific study of the
interaction between humans and machines. We'll spend much of our time discussing
human-machine interaction and how it affects daily life. Throughout the course, we will
discuss theories and principles that help to explain human-machine interaction. We will
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- Relate key research findings to HF theories and principles
- Understand research methods in HF, including their strengths and weaknesses
- Describe current issues in HF research
- Explain some of the broader implications of findings from HF
- Be able to redesign flawed HF systems
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<td>50% (25% for midterm paper and 25% for final paper)</td>
</tr>
<tr>
<td>Discussion</td>
<td>50%</td>
</tr>
</tbody>
</table>

Final grade rubric:

- 90 to 100% = A
- 80 to 89  = B
- 70 to 79  = C
- 60 to 69  = D
- < 60      = F

Instructional Procedures: The student will be held responsible for information contained in the assigned chapters, as well as for information contained in course discussions, etc. IT IS IMPORTANT THAT YOU READ AND STUDY THE ASSIGNED MATERIAL BEFORE POSTING TO THE DISCUSSION FORUM!!!

- I will use CANVAS to post all presentations and any handouts. You need to check this regularly for special announcements.
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- I'm here to help you understand this material. Call me, email me, or come by my office if you have any questions or concerns.
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Disability Issues

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### Class Schedule (days are subject to change as needed)

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topics</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to EP&amp;HF</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>2</td>
<td>Signal Detection Theory</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>3</td>
<td>Attention in Perception and Display Space</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>4</td>
<td>Spatial Displays</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>5</td>
<td>Spatial Cognition, Navigation, etc.</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>6</td>
<td>Language and Communication</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>7</td>
<td>Memory and Training</td>
<td>Chapter 7</td>
</tr>
</tbody>
</table>

**Mid-term paper due xx/xx**

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topics</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Decision Making</td>
<td>Chapter 8</td>
</tr>
</tbody>
</table>

**XX/XX**

**Fall Break**

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Topics</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Multi-tasking Corrected</td>
<td>Chapter 10</td>
</tr>
<tr>
<td>10</td>
<td>Mental Workload, Stress....</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>11</td>
<td>Automation</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>12</td>
<td>Automation (cont.)</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>13</td>
<td>Research Topics</td>
<td>Handouts</td>
</tr>
<tr>
<td>14</td>
<td>Research Topics</td>
<td>Handouts</td>
</tr>
</tbody>
</table>

**Final Assignment due xx/xx**
New courses are available beginning with the fall term in which they appear in the University Catalog.

SUBJECT A H F COURSE NO.* 4303 CREDIT HOURS 3 ACADEMIC YEAR TO BE ADDED TO THE FILE Fall 2016

*Justify level if 1000-level+ and no corequisites

CLASS HOURS 45/Semester LECTURE HOURS 45/Semester LAB HOURS CONTACT HOURS (CEU ONLY)

DEPARTMENT Aviation Studies SCHEDULE TYPE Lecture (A)

☐ COLLEGE OF AERONAUTICS – 23
☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS – 24
☐ COLLEGE OF SCIENCE – 26
☐ COLLEGE OF ENGINEERING – 1
☐ EXTENDED STUDIES / NATHAN M. BISK COLLEGE OF BUSINESS – 90

COMPUTER TITLE Restricted to 25 characters, including spaces: Usability and Design

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS ☐ Pre-requisite, AHF 1101 ☐ Corequisite, Course Number ☐ and ☐ or ☐ and ☐ or

ADDITIONAL RESTRICTION Junior Standing

GRADES TO BE ISSUED ☐ A, B, C, D, F ☐ A, B, C, D, F, CEU/Audit ☐ CEU
☐ S, U ☐ P, F ☐ Other

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSE) COURSE NO. (e.g., 1301) TERM TO INACTIVATE

☐ Yes ☐ No Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.**

☐ Yes ☐ No Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

☐ Yes ☐ No Will this course impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

APPROVALS: On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Originator Date

Department Head/Program Chair Date

Dean or Associate Dean Date

**Vice President for Institutional Effectiveness

REGISTRAR’S USE ONLY

SCACRISE SCADETL SCARPRO SCARBASE

SCARBES Operator Init. Date
FLORIDA INSTITUTE OF TECHNOLOGY
COLLEGE OF AERONAUTICS
AHF 4303—Aviation Usability and Design (3 credit hours)

Course Outline

Instructor: Dr. xxxxxxxxx
Phone: xxxxxxxx

Time/Room xxxxxxxxxx
          xxxxxxxxxx

Office Hours: xxxxxxxxxx


Course Description: This course introduces the field of usability and design. This course presents and analyzes usability and design issues in general applications; however the emphasis will be on the aviation industry and aircraft systems. Some topics to be covered include, but are not limited to, usability testing, heuristics, assessment methods, interface standards, etc.

Course Learning Objectives: At the completion of this course, students will be able to:

- Define usability and explain its role in the design of systems
- Understand key concepts used in usability and design
- Apply usability concepts to everyday challenges
- Apply usability principles to improving aircraft design, safety, and pilot performance
- Work effectively in teams

Course Requirements:
(1) One term paper (using APA format) on any topic of your choice that has been approved in advance by your instructor in the area of usability and design.
(2) One oral presentation associated with your term paper.
(3) Mid-term Exam
(4) Final Exam
Grading Policy:
(1) Term Paper 35%
(2) Oral Presentation 15%
(3) Mid-Term Exam 25%
(4) Final Exam 25%

Instructional Procedures: The instructor will conduct a selected number of lectures/discussion. Students will select or be assigned chapters to review and present to the class for discussion. All students will be held responsible for information contained in the assigned chapters, as well as for information contained in classroom activities—lecture, discussion, demonstrations, etc.

Students will be required to write a term paper on a topic related to a current usability issue of their choice applied to a specific system (e.g. aviation, transportation, medicine, process control, etc.). Students will be required to make a formal oral presentation of approximately 10 minutes duration related to the usability issues discussed in their term paper.

IT IS IMPORTANT THAT YOU READ AND STUDY THE ASSIGNED MATERIAL BEFORE COMING TO CLASS!!!

A mid-term and final exam will be conducted based on the assigned readings from the text and lectures presented by the instructor, students and guest speakers (if any).

- All exams are open book (i.e., take home).
- I will use Canvas to post all presentations and many of the handouts. You need to check this regularly for special announcements.
- Missed exams cannot be made up without an official excused absence.
- I'm here to help you understand this material. Call me, email me, or set up an appointment to see me if you have any questions or concerns.

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<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Classes Begin - Introduction to Usability</td>
<td>Chapter 1</td>
</tr>
<tr>
<td></td>
<td>Executive Summary</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>What is Usability?</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>3</td>
<td>Generations of User Interfaces</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>4</td>
<td>The Usability Engineering Lifecycle</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>5</td>
<td>Usability Heuristics</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>6</td>
<td>Usability Testing</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>7</td>
<td>Usability Assessment Methods</td>
<td>Chapter 7</td>
</tr>
<tr>
<td></td>
<td><strong>Distribute Mid-term Exam</strong> [Chapters 1-7]</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Interface Standards</td>
<td>Chapter 8</td>
</tr>
<tr>
<td></td>
<td><strong>Mid-term Exam Due</strong></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>International User Interfaces</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>10</td>
<td>Future Developments</td>
<td>Chapter 10</td>
</tr>
<tr>
<td>11</td>
<td>Usability in Aviation</td>
<td>Handouts</td>
</tr>
<tr>
<td>12</td>
<td>Usability in Aviation (cont.)</td>
<td>Handouts</td>
</tr>
<tr>
<td>13</td>
<td>Oral Presentations</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Oral Presentations</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Oral Presentations</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Term Paper Due</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>**Distribute Final Exam [Chapters 8-10 plus handouts]</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Final Exam Due xxxxxxxxxxxxx</strong></td>
<td></td>
</tr>
</tbody>
</table>
New courses are available beginning with the fall term in which they appear in the University Catalog.

Adding a new course to the curriculum

This is a request for reactivation of a course in the system. □ Yes □ No

Subject: A □ H □ F □ Course No. (e.g. CSE) (e.g., 1301) Credit Hours: 3 Academic Year to be added to the file: Fall 2016 (e.g., Fall 2010)

Class hours: 45/Semester Lecture Hours: 45/Semester Lab Hours: Contact hours (CEU only)

Department: Aviation Studies Schedule Type: Lecture (A)

[Checkboxes and options]

- College of Aeronautics: 23
- Nathan M. Bisk College of Business: 24
- College of Engineering: 1
- College of Psychology and Liberal Arts: 25
- College of Science: 26
- Extended Studies/Nathan M. Bisk College of Business: 90

Computer title: Restricted to 25 characters, including spaces. Applied Ergonomics

Catalog title: Applied Ergonomics

Catalog description of course: Restricted to 30 characters, including spaces

Introduces the field of applied ergonomics. Presents and analyzes ergonomics issues in general applications. Emphasizes the aviation industry and aircraft systems. Includes such topics as human-centered design, senses and systems of the human body and anthropometry.

This description has been approved by the catalog office. Emjoy 2/19/2015 Catalog & Curriculum Manager Date

In addition, please attach a course syllabus and/or more detailed description.

Restrictions:
- Prerequisite: AHF 1101
- Corequisite: Course number
- and or

Grades to be issued:
- A, B, C, D, F
- A, B, C, D, F, CEU/Audit
- CEU
- S, U
- P, F
- Other

Additional restrictions:
- Junior Standing

(If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

Valid terms of inactivation:
□ Yes □ No

WILL THIS COURSE BE USED TO MEASURE PROGRAM-LEVEL STUDENT LEARNING OUTCOMES? IF YES, REVIEW AND SIGNATURE REQUIRED.
□ Yes □ No

WILL THIS COURSE BE USED TO SATISFY THE SCHOLARLY INQUIRY REQUIREMENT? IF YES, ATTACH "Q" MATERIALS FOR REVIEW.
□ Yes □ No

WILL THIS COURSE IMPACT ANY EXISTING PROGRAMS? IF YES, ATTACH "CHANGING GRADUATION REQUIREMENTS" FORM FOR EACH PROGRAM THAT IS IMPACTED.
□ Yes □ No

Approvals:
On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Chair, Graduate Council: Date

Chair, Undergraduate Curriculum Committee: Date

Catalog & Curriculum Manager: Date

Registrar's use only:

SCACOESE: Operator Init. Date

Florida Institute of Technology • Office of the Registrar

150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827
FLORIDA INSTITUTE OF TECHNOLOGY
COLLEGE OF AERONAUTICS
AHF 4304—Applied Ergonomics (3 credit hours)

Course Outline

Instructor: Dr. xxxxxxxxx
Phone: xxxxxxxx

Time/Room: xxxxxxxxxx

Office Hours: xxxxxxxxxx


Course Description: This course introduces the field of applied ergonomics. This course presents and analyzes ergonomics issues in general applications; however the emphasis will be on the aviation industry and aircraft systems. Some topics to be covered include, but are not limited to, human-centered design, senses and systems of the human body, anthropometry, workplace and tool design, etc.

Course Learning Objectives: At the completion of this course, students will be able to:

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- Understand key concepts used in ergonomics
- Apply ergonomics concepts to everyday challenges
- Apply ergonomics principles to improving aircraft design, safety, and pilot performance
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(2) One oral presentation associated with your term paper.
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<th>Assignment</th>
</tr>
</thead>
</table>
| 1    | Classes Begin - Introduction to Ergonomics  
      Foundational Ergonomics | Chapter 1 |
| 2    | Systems of the Human Body | Chapter 2 |
| 3    | Senses of the Human Body and Measurement | Chapter 3 |
| 4    | Muscular Work & Control of Movements | Chapter 4 |
| 5    | Anthopometry | Chapter 5 |
| 6    | Design of Workplaces and Hand Tools | Chapter 6 |
| 7    | Work-Related Disorders  
      **Distribute Mid-term Exam** [Chapters 1-7] | Chapter 7 |
| 8    | Heavy Work and Lifting  
      **Mid-term Exam Due** | Chapter 8 |
| 9    | Information Ergonomics, Controls & Displays | Chapter 9 |
| 10   | Warning Labels and Instructions | Chapter 10 |
| 11   | Ergonomics in Aviation | Handouts |
| 12   | Ergonomics in Aviation (cont.) | Handouts |
| 13   | Oral Presentations | |
| 14   | Oral Presentations | |
| 15   | Oral Presentations  
      **Term Paper Due**  
      **Distribute Final Exam [Chapters 8-10 plus handouts]** | |
|      | **Final Exam Due xxxxxxxxxxxxx** | |