

Master Syllabus

AVT 2240 - Human Factors in Aviation

Division: Science, Mathematics and Engineering

Department: Aviation Technology

Credit Hour Total: 3.0

Lecture Hrs: 3.0

Prerequisite(s): DEV 0035

Date Revised: April 2015

Course Description:

Provides pilots and other aviation professionals with an in-depth knowledge of human performance capabilities and limitations and their relationship with aircraft systems operation. Automation and human errors, fatigue, diet, motivation and learning, training principles, human sensory capabilities and limitations, supervisory control and Crew Resource Management (CRM) are among the topics this course will address.

General Education Outcomes:

- Oral Communication Competency
- Written Communication Competency
- Critical Thinking/Problem Solving Competency
- Values/Citizenship/Community Competency
- Computer Literacy Competency
- Information Literacy Competency

Course Outcomes:

Human information processing

Demonstrate an understanding of theories of human information processing.

Assessment Method: Locally developed exams

Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination

Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires

Performance Criteria:

Score 65% or higher on term paper

Fatigue and motivation

Demonstrate an understanding of the effects of fatigue and motivation on human performance errors.

Assessment Method: Locally developed exams

Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination

Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires

Performance Criteria:

Score 65% or higher on term paper

Human performance capabilities and limitations

Demonstrate an understanding of the effects of physiology, psychology, and the environment on human performance.

Assessment Method: Locally developed exams

Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination

Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires

Performance Criteria:

Score 65% or higher on term paper

Ergonomic principles

Demonstrate an understanding of ergonomic principles and guidelines.

Assessment Method: Locally developed exams
Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination
Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires
Performance Criteria:

Score 65% or higher on term paper

Principles of learning

Demonstrate an understanding of the principles of learning, the acquisition of skills and knowledge, and the development of attitudes.

Assessment Method: Locally developed exams
Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination
Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires
Performance Criteria:

Score 65% or higher on term paper

Human errors

Demonstrate an understanding of the causes of human error, and the effects of errors on aviation accidents.

Assessment Method: Locally developed exams
Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination
Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires
Performance Criteria:

Score 65% or higher on term paper

Safety and performance improvements

Identify methodologies to improve human performance, efficiency, and safety in aviation.

Assessment Method: Locally developed exams
Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination
Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires
Performance Criteria:

Score 65% or higher on term paper

Human sensory capability

Demonstrate knowledge of human sensory input modes (e.g., eyes, ears, nose, and touch).

Assessment Method: Locally developed exams
Performance Criteria:

Score 65% or higher on exams

Assessment Method: Oral examination
Performance Criteria:

Score 65% or higher on oral presentation

Assessment Method: Written surveys and/or questionnaires
Performance Criteria:

Score 65% or higher on term paper

Outline:

Human sensory capability
Human information processing
Human performance capabilities and limitations
Ergonomic principles
Principles of learning
Fatigue and motivation

Human errors
Safety and performance improvements