

HFS219e Human Factors Methods

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JAN

E-Learning: BLENDED - Learning is done MAINLY online using interactive study materials in Canvas. Students receive guidance and support from online instructors via discussion forums and emails. This is supplemented with SOME face-to-face sessions. If the course has an exam component, this will be administered on-campus.

Synopsis:

Human Factors and Safety practitioners have to design and evaluate systems to enable optimal human performance and safety. This course provides a foundation with respect to concepts as well as tools for application in the real world scenarios. Both analytic and evaluative human factors methodologies will be covered in the curriculum. This course provides students with the basic skills and tools to be able to address real world problems, seek best compromise for difficult problems, offer cost effective solutions and develop benchmark for best practices. Practical problems associated with the design of experiments in human factors research will be taught with an emphasis on qualitative data collection techniques. Upon completion of the course, students will be familiar with the range of human factors tools that they can employ in the workplace. They would be familiar with the methods for conducting research and investigations involving human subjects and making sense of data gathered. Throughout the course, illustrations of how the concepts and tools may be applied in system design and evaluation will be provided through specific case scenarios.

Topics:

- Introduction to Human Factors Methods
- Classification of Methods
- Qualitative Methods
- Experimental Design
- Basic Statistical Concepts
- General Task Analysis Methods
- Cognitive Task Analysis Methods
- Physical Measures
- Mental Workload Measurements
- Measures of Situational Awareness
- Team Assessment Methods
- Ethics in Human Factors Studies

Learning Outcome:

- Define key principles of human factors methodology.
- Discuss experimental design in human factors research.
- Explain the various methods applicable to different scenarios encountered in human factors studies.
- Examine the tools used for data collection for conducting human factor investigations or studies.
- Illustrate appropriate methods that address problems in real world scenario.
- Propose human factors studies and data analysis by using the tools/ methods taught.

Assessment Strategies:

Continuous Assessment Component	Weightage (%)
QUIZ	10
TUTOR-MARKED ASSIGNMENT	20
Sub-Total	30

Examinable Component	Weightage (%)
Written Exam	70
Sub-Total	70

Weightage Total **100**