Industrial Engineering Program

1. COURSE NUMBER AND NAME	**IE 355 – Human Factors**
2. CREDITS AND CONTACT HOURS	3 Credits. 3 Contact Hours
3. COURSE INSTRUCTOR	Harry Blanchard
4. TEXT BOOK	Sanders and McCormick, *Human Factors in Engineering and Design*, 7th Edition, New York, McGraw-Hill.
4A. OTHER MATERIAL	Wickens, Gordon, & Liu. *An Introduction to Human Factor Engineering*. NY: Longman. Chapter 15: *Human-Computer Interaction*
5A. CATALOG DESCRIPTION	Human-machine systems analysis including study of workplace layout, measurement of employee efficiency and productivity, criteria for tool and fixture design or selection, industrial fatigue, environmental influences on performance including the effects of illumination, noise, vibration, thermal, and other atmospheric factors. Basic ideas of industrial hygiene; the impact of OSHA; and special techniques for experimenting with human subjects, via demonstrations and supervised experiments.
5B. PREREQUISITES	Junior standing
5C. REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Required
6A. SPECIFIC OUTCOMES OF INSTRUCTION	The students will: 1 Learn the fundamentals of human information processing and their applications (h, j). 2 Evaluate and design user-friendly human-system interfaces (c, d, e, g). 3 Learn the use of computer systems and equipment in human factors studies (e, k).
6B. CRITERION 3 OUTCOMES ADDRESSED	The mapping of the three (3) outcomes of instruction of item 6A to the Criterion 3 outcomes (a-k) is as follows: 1. Satisfies Criterion 3 outcomes h and j. 2. Satisfies Criterion 3 outcomes c, d, e and g. 3. Satisfies Criterion 3 outcomes e and k.

7. TOPICS COVERED	1. Introduction, human factors definitions 2. Human factors research methodologies 3. Human information processing 4. Visual presentation - static and dynamic information 5. Auditory and other displays; Speech communication 6. Motor skills, human control systems, data entry devices 7. Physical work and manual materials handling 8. Hand tools 9. Applied anthropometry 10. Workplace environment: illumination and atmospheric conditions 11. Workplace environment: noise, vibration and motion 12. Human error, accidents and warnings 13. Usability and human-computer interaction