SAN JUAN COLLEGE
Success Matters

SAFE-2610 ERGONOMICS AND HUMAN FACTORS ENGINEERING 1

CREDIT **SYLLABUS**

CATALOG DESCRIPTION

This course reviews the principles and practices of ergonomics in a work environment. The focus is on the human operator and their effective functioning in such an environment. Work physiology and principles of human factors are explained to reduce injuries.

Prerequisites:

Semester Offered: All

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in…

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

COURSE LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to…

1. Paraphrase the regulatory environment in ergonomics

2. Describe some of the common potential injuries associated with performance of tasks that present hazards

3. Apply ergonomic concepts to the prevention, control, or elimination of hazards

4. Distinguish human factors engineering to the interaction of workers and machines

5. Explain the regulatory issues, guidelines and standards for ergonomics

6. Describe the various types of ergonomic injuries and recognize the risk factors that contribute to an ergonomic injury

7. Apply the basics of how to analyze and measure potential risk factors in ergonomics

8. Apply anthropometric data and design principles in work design

9. Describe the fundamentals of Human Factors Engineering and methods for reducing safety problems through improved design

10. Describe the role of ergonomics in business goals and be able to recognize the cost benefit categories associated with ergonomic projects

11. Apply benchmarking and performance criteria to the field of ergonomics

12. Identify leading and lagging metrics

13. Describe best practices in ergonomics and how to apply ergonomic tools to the design of products and processes