SAN JUAN COLLEGE
Success Matters

ENER-1350 EMISSIONS DETECTION, ANALYSIS, AND CONTROL .5 CREDITS

SYLLABUS

CATALOG DESCRIPTION

In this course students become familiar with natural gas regulations. Students will be introduced to the various types of emissions as well as step-by-step details on the emission testing process. The course will include hands-on testing with a portable emission analyzer and witnessing the effects that changes in the combustion process make on final emissions.

Prerequisites: None

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. Identify the basic types of emissions.
2. Discover different methods of controlling emissions.
3. Learn the differences between regulated and unregulated compounds.

4. Discover the differences and results of lean burn and rich burn engines.
5. Proper identify emission components that are developed by internal combustion engines.
6. Troubleshoot abnormal situations that occur in natural gas engines.
7. Learn the different types of catalytic converters and when they are used.
8. Perform hands on troubleshooting and testing with a portable emission analyzer.