



**ENGY 1260 Introduction to Natural Gas Compression** Section Name Section Credit Hours  
Credits  
Syllabus

## Course Information

**Meeting times and location:** section meeting\_times section location

**Catalog description:** This course is an introduction to natural gas compressors, their design, use and operation. How compressors work, their components, design considerations and the basic gas laws used in compression will be stressed. The student will gain a basic knowledge of the compression process and the environmental hazards and safety associated with the operation of compressors.

**Terms offered:** All Semesters

**Section-specific Course Description:**

## Course Level Objectives

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

1. Explain how compressors work and why we use compressors in the oil and gas industry, the major parts of a gas compressor package, the different drivers used for compressor packages, how a 2 stroke and a 4 stroke engine differ and how the driver is connected to the compressor.
2. Demonstrate why the different gas laws and the ideal gas law are important for compression and gas standards.
3. Demonstrate the basics of how a gas compressor works, the compression cycle, volumetric efficiency, rod loads and determine factors influencing the design of compressor units.
4. Identify and explain the different applications of compressor units in the oil and gas industry and the different types of compressor units and the considerations needed in selecting the proper compressor for the job.

5. Identify and explain the major components and function of those components and some of the considerations in the design of individual compressor components and valves.
6. Explain the function of the control panel, safety shutdowns and auxiliary equipment used on a compressor skid and the need for capacity control on a compressor skid and how it effects the compressor and it's function.
7. Name the reasons and the desired functions of installing compressors on individual wells in the field and identify the different types of compressors used on the wellhead application in the field and why we use them.
8. Demonstrate how the daily operation effects the compressor package and the importance of maintenance and accurate record keeping on a daily, weekly and monthly basis on compressor packages and why it is essential in the efficient operation of compressors.
9. Demonstrate awareness of some of the safety hazards associated with a compressor installation and the mitigation of those hazards and the potential environmental hazards and how they are regulated.

## Required Texts and/or Materials

### **Reciprocating Gas Compressors**

0-88698-119-0

Petroleum Extension Service Division of Continuing Education the University of Texas at Austin  
1982

## Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

## Course Requirements

Students will do the following activities:

- Complete the SJC Academic Honesty Rules assignment. (The link to this rule can be found below under College Policies, Academic Honesty Rules.)
- Set up and activate San Juan College E-Mail Account.

## Other Classroom Policies and Expectations

Students who have any issues with course content or grades issued to them should first attempt to resolve any issues with the course instructor. San Juan College does have a formal grade appeal process. If a student wishes to challenge a grade issued to them, they should first contact the course instructor for a copy of the appropriate forms.

## Grading

Final grades are calculated based on the following...

Category	Weight
Quizzes	25
Exams	25
Homework	20
Papers	15
Attendance	15

## Course Time Commitment

The course is an introductory course so the time spent on each lesson will vary with the student's familiarity with the material. The expectation is that the student will spend 2-4 hours per week reviewing the material and completing the assignments and quizzes. It is expected that a student will spend an additional 2-4 hours doing research for assignments and subjects.

## Canvas Participation and Expectations

Canvas will document the date, time and how long a student spends on each lesson and assignment. As per the attendance policy, it is expected that a student log in 2-3 times a week

## Participation and Attendance Policy

This course is self-paced and does not require an instructor's permission to submit assignments. Students have 8 weeks to complete all assignments and take the final exam. There will be 1-2 lessons per week that will be available until Sunday at 11:59 PM each week except for the last week of class and the class will typically end on Friday at 11:59 PM. Students must complete each lesson in

that week long session in order to get credit for that lesson(s). There are no make-up provisions for any reason excepting a failure of the online system that the course is presented in. (Extraordinary circumstances may warrant extending due dates only with prior notice). Attendance will be assessed by how many times per week a student logs into the class. 2-3 times per week will constitute 100% attendance. All other frequencies will be assessed by the ability to meet deadlines and the student's knowledge of announcements and correspondence sent during the week. Students who fail to log in the 1st week of class will be automatically dropped from the class. Students who do not complete assignments and quizzes on an ongoing basis may also be deemed for non- participation.

## Instructor Response Times & Regular Interaction Expectations

The instructor will log in to the course 2-3 times daily except for weekends. Usually log in and grading will be once in the AM and 1-2 times in the PM. Any correspondence from the student to the instructor will be answered within 1 hour except for weekends. The instructor will log in each day and do grading and answering correspondence 1 time per day on weekends.

## Key Dates to Remember

[Full Academic Calendar](#)

## Course Schedule

Module 1 01/19/2021 to 01/24/2021

Module 2 01/25/2021 to 01/31/2021

Module 3 02/01/2021 to 02/07/2021

Module 4 02/08/2021 to 02/14/2021

Module 5 02/15/2021 to 02/21/2021

Module 6 02/22/2021 to 02/28/2021

Module 7 03/01/2021 to 03/07/2021

Module 8 03/08/2021 to 03/12/2021

# Program Handbook

There is no separate handbook for this course.

## Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at [San Juan College Help Desk](#).

For password reset and Canvas support, visit the [Student Technology Guide](#) website.

## Accessibility/Privacy Policies for all Technology Tools Used

[Accessibility/Privacy Policies for all Technology Tools Used](#)

## Student Support

At San Juan College, we are committed to supporting your academic success and overall well-being. We recognize that college life can be challenging and stressful, impacting both learning and personal health. We are here to help you succeed.

### **Academic Support and Resources**

We provide a range of academic support services to help you stay on track on your educational journey. Free resources include tutoring, computer loans, life skills workshops, and so much more. Visit the [Academic Support and Resources](#) webpage to learn more about support and resources available through Academic Advising, the Tutoring Center, the Student Resource Center (formerly Student Achievement Center) and the Testing Center.

### **Student Support and Resources**

If you or someone you know could benefit from counseling, accessibility services, career exploration, veteran transitional assistance, or any of our other support services, visit the [Student Support and Resources](#) webpage where you'll find detailed information about various resources available to you as an SJC student.

We encourage you to take advantage of these free resources to enhance your college experience and ensure your success.

## College Policies and Resources for Current Students

The [Student Handbook](#) provides information on student support, student organizations, and student conduct policies at San Juan College.

The San Juan College catalog outlines the [Academic Policies](#) students need to know.

## Healthy and Safe Practices for Being on Campus

We want a healthy and safe campus for students, faculty, staff, and guests.

### **Contagious diseases and your responsibility:**

If you have COVID-19 symptoms, fever, flu or even the common cold, you should stay home. Do not come to campus if you are feeling sick. Contact your instructor about missing class (and review your instructor's policies on missed or late work). Being sick does not necessarily excuse you from completing your work on time.

### **Safety on campus and your responsibility:**

If you are on campus and experience or witness an emergency, call 9-1-1 first and then the Department of Public Safety at 505-566-3333 (or just 3333 if calling from a campus phone).

When you are on campus, be aware of your surroundings. If you need an escort to your vehicle, call 505-566-4444 (DPS non-emergency line) or 505-215-3091 (officer on duty line).

The College will send information for campus emergencies through SJC AlertAware, email and the webpage. Stay informed and stay safe.

## Inclement Weather Information

Students will receive notification of class delays and cancellations due to inclement weather via the SJC AlertAware and SJC student email. Face-to-face classes will not meet in person; however, students are advised to check with instructors about alternative meeting options, as some may choose to meet via zoom. Hybrid classes will meet as scheduled via zoom. For questions regarding your class delay or cancelation, please contact your instructor.

## Online Course Fee

Online Courses - San Juan College requires all online courses to include some form of assessment to demonstrate the mastery of course objectives. This could include exams, capstone projects, e-

portfolios, presentations, final papers or other appropriate assessments. The use of a proctoring platform, plagiarism detection software or other method to ensure that assessments are completed by the enrolled student is required.

A course fee of \$5.00 is assessed for all online courses at San Juan College to cover the cost of the above services. Students who are required to take a proctored exam and choose to use a physical testing center outside the SJC Testing Center or SJC Disability Services will be responsible for the cost of using that center.