

**SEWARD COUNTY COMMUNITY COLLEGE  
COURSE SYLLABUS**

**I. TITLE OF COURSE:** CT2113- Atmospheric Corrosion

**II. COURSE DESCRIPTION: 3 credit hours**  
**1 credit hours of lecture and 2 credit hours of lab per week.**

Atmospheric Corrosion is an in-depth survey of the experimental and theoretical studies of atmospheric corrosion, which has been called "the most visible of all corrosion processes," even though the atmosphere itself is often hard to see. Atmospheric Corrosion (referred to in syllabus materials as "AC") has been reported to account for more failures in terms of cost and tonnage than any other type of material degradation processes. This course covers / identifies the main factors that cause Atmospheric Corrosion, methods of monitoring the elements that influence corrosion rates, and systems to control the corrosivity of material surfaces.

For each unit of credit, a minimum of three hours per week with one of the hours for class and two hours for studying/preparation outside of class is expected.

Pre-requisite: CT1103 Introduction to Corrosion

**III. PROGRAM AND/OR DEPARTMENT MISSION STATEMENT:**

The Corrosion Technology program at Seward County Community College provides students with the opportunity to develop and enhance their skills in the corrosion technology field through educational and technical instruction.

**IV. TEXTBOOK AND MATERIALS:**

Atmospheric Corrosion, by Leygraf & Graedel. ISBN 0-471-37219-6

**V. SCCC OUTCOMES**

Students who successfully complete this course will demonstrate the ability to do the following SCCC Outcomes.

- 1: Read with comprehension, be critical of what they read, and apply knowledge gained to real life
- 2: Communicate ideas clearly and proficiently in writing, appropriately adjusting content and arrangement for varying audiences, purposes, and situations.
- 3: Communicate their ideas clearly and proficiently in speaking, appropriately adjusting content and arrangement for varying audiences, purposes, and situations.
- 4: Demonstrate mathematical skills using a variety of techniques and technologies.
- 5: Demonstrate the ability to think critically by gathering facts, generating insights, analyzing data, and evaluating information

9: Exhibit workplace skills that include respect for others, teamwork competence, attendance/punctuality, decision making, conflict resolution, truthfulness/honesty, positive attitude, judgment, and responsibility

**VI. COURSE OUTCOMES:**

1. Students will identify and define the various types of Corrosive Atmospheres using the correct terminology.
2. Students will recognize different Testing, and Control methods to address Atmospheric Corrosion.

3. Students will understand the requirements of the Code of Federal Regulations regarding Atmospheric Corrosion Control.
4. Inspections giving attention to pipe at soil-to-air interfaces, under thermal insulation, under dis-bonded coatings, at pipe supports, in splash zones, at deck penetrations, and in spans over water.
5. Students will demonstrate good work habits which include safety, cleanliness, efficiency, quality of work, and respect for expensive instrumentation.
6. Students will illustrate their ability to manage projects, to manage their time, and demonstrate good work habits. This will be accomplished through punctuality, completion of assigned work on time, and respect for the attendance and honesty policies of SCCC.

## **VII. COURSE OUTLINE:**

1. The Many Faces of Atmospheric Corrosion
2. Conceptual Picture of Atmospheric Corrosion
3. Multi-Regime Perspective on Atmospheric Corrosion
4. Atmospheric Gasses and Particles
5. Corrosion in Laboratory, Indoor and Outdoor Exposures
6. Advanced Stages of Corrosion
7. AC in Architectural, Structural, Electronic settings, and Cultural Artifacts

## **VIII. INSTRUCTIONAL METHODS:**

1. Lecture
2. Demonstrations
3. Discussion
4. Small Group
5. Lab Practice

## **IX. INSTRUCTIONAL AND RESOURCE MATERIALS:**

Atmospheric Corrosion, by Leygraf & Graedel. ISBN 0-471-37219-6

## **X. METHODS OF ASSESSMENT:**

1. Homework 25%
2. Quizzes 25%
3. Lab Work 25%
4. Final Exam 25%

## **XI. ADA STATEMENT:**

Under the Americans with Disabilities Act, Seward County Community College will make reasonable accommodations for students with documented disabilities. If you need support or assistance because of a disability, you may be eligible for academic accommodations. Students should identify themselves to the Dean of Students at 620-417-1106 or going to the Student Success Center in the Hobbie Academic building, room 149 A.