# **SCI 100 2028W2**

### **Instructor: Timothy Schmore**

### **Course Duration: 16 Weeks**

### **Course Objective:**

This course introduces students to fundamental scientific concepts, emphasizing key definitions and their real-world applications.

## **Week-by-Week Breakdown:**

### **Week 1: Introduction to Earth and Atmospheric Science**

* Understanding Earth's surface and atmosphere
* Overview of the layers of the atmosphere

### **Week 2: Air Movement and Weather Phenomena**

* Air currents and atmospheric stability
* Causes and effects of turbulence

### **Week 3: Precipitation and Ice Formation**

* Types of precipitation and formation of ice crystals
* The role of temperature and humidity in precipitation

### **Week 4: Cloud Formation and Types**

* Cloud classifications and formation mechanisms
* Weather conditions associated with different clouds

### **Week 5: The Coriolis Effect and Wind Systems**

* Global wind patterns and weather systems
* Myth-busting: Does it affect ocean currents?

### **Week 6: High-Altitude Weather Patterns**

* Cirrus, stratus, and cumulus cloud formations
* How high-altitude clouds influence weather prediction

### **Week 7: Measuring Wind and Weather Data**

* Understanding wind scales and meteorological tools
* Interpreting wind data for weather forecasting

### **Week 8: Midterm Review and Quiz**

* Recap of Weeks 1-7
* Practice questions and discussion

### **Week 9: Ocean Currents and Climate**

* How ocean currents influence weather
* Examining external forces that shape ocean currents

### **Week 10: The Gulf Stream and Global Circulation**

* How ocean currents distribute heat globally
* Impact on climate and weather systems

### **Week 11: Extreme Weather Events**

* Hurricanes, tornadoes, and typhoons
* How wind patterns influence storm development

### **Week 12: Human Impact on Weather and Climate**

* Climate change and human activities
* Changes in weather patterns due to global warming

### **Week 13: Weather Forecasting and Technology**

* How meteorologists predict weather
* The role of satellites and radar in weather forecasting

### **Week 14: Real-World Applications of Atmospheric Science**

* How pilots, sailors, and meteorologists use this knowledge
* The importance of understanding weather patterns

### **Week 15: Final Review and Discussion**

* Comprehensive review of all topics
* Practice exam and Q&A

### **Week 16: Final Exam and Course Wrap-Up**

* Final assessment covering key definitions and concepts
* Reflection on what was learned

### **Assessment & Grading:**

* Weekly Quizzes (30%)
* Midterm Exam (30%)
* Final Exam (40%)