# **Exploring Earth's Physical Features Undergraduate Course Information Guide**

Course Number: CCS 292, 2 or 4 credits, 10 Weeks Cross listed Course Number: SNC 209, 4 credits, 10 Weeks Delivery Formats: Online Async

Learning Outcomes	<u>Learning Strategies</u> <u>and Resources</u>	<u>Learning</u> <u>Deliverables</u>
Assessment/Grading	Course Schedule	<u>Policies</u>

#### **Course Description**

This course advances student exploration of earth's 4.5 billion year geologic record in order to evaluate the planet's evolution and the interrelationships between humans and landforms. Through the application of scientific reasoning, mathematical inference, and prevailing technologies used by geologists, emphasis is on plate tectonics, geologic time, the rock cycle, weathering, earthquakes, fluvial features, rock structures, volcanoes, mountains, plateaus, plains, glacial features, deserts, caves, and coasts. Students also assess human reliance on landforms, the economics of landforms, and cases of earth pseudoscience. Learning is assessed through labs, fieldtrips, a scientifically-formatted research paper, an exam, and contributions to online discussions.

## **Learning Outcomes**

After completing this course, you will be able to:

- Explore natural phenomena or the world of everyday experiences using scientific methods, and can use theories to interpret observations.
- Describe, differentiate, and explain form, function, and variation within physical systems.
- Describe, categorize, and explain development or change within physical or biological systems.
- Describe and explain connections among diverse aspects of nature.
- Explain and evaluate the nature and process of science.

# Learning Outcomes for SNC 209: Liberal Studies Program - Scientific Inquiry: Science as a Way of Knowing Domain

- Students will be able to apply appropriate concepts, tools, and techniques of scientific inquiry.
- Students will be able to describe how natural scientific, mathematical, and/or computational methodologies function as mechanisms for inquiry.
- Students will be able to explain the interaction between the content of their SI-Elective course and other scientific disciplines or the broader society.

## **Learning Strategies and Resources**

Some learning activities, assignments and deadlines will vary depending on the delivery format of the course and may differ slightly from what is presented in this document.

This online course progresses through 5 geology-themed modules each with two units that employ a combination of readings (text and scholarly articles) and multimedia resources (archived online videos, United States Geological Survey websites, and National Science Digital Library multimedia). Each unit is one week in duration. Corresponding laboratory exercises and virtual fieldtrips to websites with interactive multimedia alternate every other week with laboratory exercises employing rock specimen kits, field data collections, online geomorphology databases (USGS), as well as online interactive simulations of landform processes (volcanoes, earthquakes, and weathering).

## **Required Readings**

Books and learning materials are available at the DePaul bookstore, at <a href="http://depaul-loop.bncollege.com">http://depaul-loop.bncollege.com</a>, or through alternative sources.

Reed Wicander, James S. Monroe. Geology: Earth in Perspective (MindTap Course List) 3rd Edition, (2021), Cengage Learning. ISBN-10: 0357117336, ISBN-13: 978-0357117330.

Required Lab Resource: Rock Kit with 15 Specimens, (3) Different Rock Types & Magnifier. Available for purchase through the through geology.com. http://geology.com/store/collections/rock-kit.shtml.

Additional readings may be available on Electronic Reserve, at the <u>DePaul Library</u>. Login to Ares Course Reserves and select the course. Log in using your Campus Connect User ID and password. You will then get a page listing the courses in which you're enrolled that have readings posted in Ares. Click on the title of this course and the list of our electronic reserve readings will be displayed.

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### **Learning Deliverables**

Students are required to participate in weekly online discussions that reinforce module concepts and student critical thinking through original contributions and collaborative responses to classmates. Students undertake a structured self-directed fieldtrip to a local landform to conduct an original study centering on a geological hypothesis concerning its origin. Students also complete an original inquiry research paper following a scientific format.

#### **Assessment of Student Learning**

### **Grading Practices**

Identify the criteria that will be used to assess and grade students' evidences of learning (deliverables).

#### **Distribution of Grade Points**

Graded Assignments	Percentage of Final Grade
Discussions (10)	20%
Lab Reports (4)	20%
Research Paper (Topics and References)	5%
Research Paper (Final)	20%
Virtual Fieldtrip Reports (4)	10%
Landform Field Trip Report	25%

## **Grading Scale**

A = 95 to 100	A- = 91 to 94	B+ = 88 to 90
B = 85 to 87	B- = 81 to 84	C+ = 77 to 80
C = 73 to 76	C- = 69 to 72	D+ = 65 to 68
D = 61 to 64	F = 60 or below	INC

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## **Course Schedule**

Week or Module Title or Theme	Readings / Learning Activities	Graded Assignments
Week 1, Module 1: General Characteristics of Earth, Plate Tectonics, and Geologic Time	Read: GEOL, (Chapters 1 & 2) Scientific Method Website	Take Virtual Fieldtrip 1 Submit Fieldtrip Report 1 Discussion Forum 1.1: The Dynamic Earth
Week 2, Module 1: Rock Types and The Rock Cycle	Read: GEOL, (Chapter 3)	Do Lab 1: Plate Tectonics  Submit Lab Report 1  Begin Research Paper  Discussion Forum 1.2: The Dynamic Earth
Week 3, Module 2: Chemical and Mechanical Weathering, Gravity and Earthquakes	Read: GEOL, (Chapters 6 & 8)	Take Virtual Fieldtrip 2: Submit Fieldtrip Report 2 Forum 2.1: Agents of Change
Week 4, Module 2: Mass Wasting Running Water and River Features	Read: GEOL, (Chapters 10 & 11)	Do Lab 2: Weathering and Erosion  Submit Lab Report 2  Submit Research Paper Topic(s)  Forum 2.2: Agents of Change
Week 5, Module 3: Rock Structures, Volcanoes, & Mountain	Read: GEOL, (Chapters 4, 5 and 9)	Initiate a Self-Directed fieldtrip Forum 3.1: Landforms I

Building		
Week 6, Module 3: Plateaus, Plains, & Glacial Features	Read: GEOL, (Chapter 13)  Colorado Plateau (4 minute video)	Do Lab 3: Survey of North American Landforms Submit Lab Report 3 Submit Research Paper references Forum 3.2: Landforms I
Week 7, Module 4: Coasts, Shorelines, & Oceans	Read: GEOL, (Chapter 15)	Take Virtual Fieldtrip 3: Submit Fieldtrip Report 3 Forum 4.1: Landforms II
Week 8, Module 4: Deserts and Caves	Read: GEOL, (Chapter 14 and pp. 256-258)	Do Lab 4: Landforms and Natural Resources  Submit Research Paper Draft (Optional)  Submit Self-Directed Fieldtrip Report  Submit Lab Report 4  Forum 4.2: Landforms II
Week 9, Module 5: Human Dependence on Landforms	Iron Mining (4 min video) Russian Diamonds (16 min video) Geology and Biodiversity (Mendips England Example)	Take Virtual Fieldtrip 4: Submit Fieldtrip Report 4 Forum 5.1: Human Dependence on Landforms
Week 10, Module 5: Economics of Landforms	Oil and Gas Formation (3 min)  Natural Gas (3 min)  Gold Deposits	Submit Research Paper Final Draft  Forum 5.2: Human Dependence on Landforms  Develop a 200-word summary

statement about earth's landforms.

Post this statement on the Human Dependence Forum

Forum 5.3: Human Dependence on Landforms

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#### **Course Policies**

For access to all SCPS and DePaul University academic policies, refer to the following links:

SCPS Student Resources Website

**DePaul Student Handbook** 

The <u>D2L Course Website</u> for this course.

#### **Course Syllabus**

The official syllabus for this course that includes course dates, instructor information and quarter specific details will be provided by the course instructor by the start of the course and available on the course D2L website.

## **Course Registration**

To find out when this course will be offered next, you can go to the <u>SCPS Registration</u> website for details on how to register for the course.

For information on how this course can apply to your program, contact your academic advisor.

## **School of Continuing and Professional Studies**

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