North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Liberal Arts

B. Discipline: Physical Science

C. Course Number and Title: GEOL1030 Historical Geology

D. Assistant Dean: Laura Irmer

E. Credit Hours: 4
Lecture: 3 hours
Laboratory: 2 hours

F. Prerequisites: None

G. Last Course/Curriculum Revision Date: Fall 2023 Origin date: 10/16/2017

H. Textbook(s) Title:

Visualizing Earth History
- Author: Loren Babcock
- Publisher: Wiley
- Copyright Year: 2009
- Edition: 1st
- ISBN #: 9780471724902

I. Workbook(s) and/or Lab Manual:

Historical Geology Lab Manual
- Author: Pamela J.W. Gore
- Copyright Year: 2014
- Edition: 1st
- ISBN #: 9781118057520

J. Course Description: Historical Geology is an introductory course describing the fundamental concepts of Geology for Non-Science majors. It contains 12 individual lessons grouped in 3 modules. **Module I – Fundamental Concepts** explains the basic concepts of historical geology including, earth materials and geologic time. **Module II – The Evolution of the Earth and Life through Time** follows the evolutionary processes of both the solid Earth and biology through time. **Module III – A Closer Look into the Major Time Periods** is an in depth look into each of the 5 major time periods with the focus on the biologic evolution.

K. College-Wide Learning Outcomes

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Explain the process of the scientific method. Describe and summarize the fundamental geologic theories of plate tectonics and biologic evolution. Identify and explain the major geologic processes operating on Earth.	Module I – 1 to 2 assignments, chapter review questions, and Lab 1 assignment. This will be met early in the term.
2. Describe, define, and explain the materials on Earth including, rocks, minerals, and crystals. Explain the 3 rock types and summarize the rock cycle.	Module I – 2 homework assignment worksheets, chapter review questions, and Lab 2 – Rocks and Minerals assignment. This will be met early in the term.
3. Identify the various techniques of stratigraphic correlation and distinguish between the 3 types of unconformities. Summarize the geologic time scale and the divisions of time.	Module I – 1 homework assignment, chapter review questions, and lab1. This will be met early in the term.
4. Describe how living things are classified and differentiate between a biological species and a paleontological species. Explain the factors governing the distribution and abundance of life forms.	Module II – 1 homework assignment, chapter review questions, and labs 8 through 12. This will be met by the middle of the term.
5. Explain biologic evolution and summarize the evidence we use to explain it. Describe the structure of genetic material. Explain speciation and how species evolve. Explain the role of mass extinctions in construction of the geologic time scale.	Module II – 1 homework assignment, chapter review questions, and labs 8 through 12. This will be met by the middle of the term.
6. Explain the types of geologic evidence that can be used to interpret ancient sedimentary environments. Explain the major features of modern nonmarine, transitional marine/nonmarine, and marine environments. Describe how greenhouse gases cause increases in global temperature.	Module II – 1 homework assignment, chapter review questions, and labs 3 through 7. This will be met by the middle of the term.
7. Explain continental drift and seafloor spreading, the two hypotheses that gave rise to the theory of plate tectonics. Summarize the basic forms of tectonic boundaries. Explain fault patterns at each of the boundaries.	Module II – 1 homework assignment, chapter review questions, and labs 3 through 7. This will be met by the middle of the term.
8. Explain the major geologic and biologic events of the Precambrian. Explain how we determine the age of the Earth and summarize the early Earth. Explain the origins of the oceans and atmosphere. Summarize the record of the earliest fossils.	Module III – 1 assignment, chapter review questions, and labs 8 and 9. This will be met late in the term.

Outcomes	Assessments – How it is met & When it is met
9. Summarize how supercontinents were assembled and dispersed during the Proterozoic. Explain redbeds and what they tell us about atmospheric oxygen levels. Explain the snowball Earth hypothesis. Outline the most important steps in the history of life on Earth.	Module III – 1 assignment, chapter review questions, and labs 9 and 10. This will be met late in the term.
10. Summarize early Paleozoic paleogeography and tectonic events. Discuss the major biologic events of the Silurian and Devonian time periods. Explain the invasion of land by plants and animals. Discuss the assembly of Pangea and its effect on global climactic patterns.	Module III – 1 assignment, chapter review questions, and labs 10 and 11. This will be met late in the term.
11. Identify the major marine life forms of the Triassic and the terrestrial animals that evolved. Explain the early stages of the splitting and rifting of Pangea. Distinguish the major groups of dinosaurs. Explain the origin of flowering plants.	Module III – 1 assignment, chapter review questions, and labs 11 and 12. This will be met late in the term.
12. Describe and explain the growth of the Atlantic Ocean and the development of modern day mountains and seas. Identify the factors that forced rapid climate and sea level change in the Cenozoic. Describe ecosystem change of the Paleogene. Explain the evolution of humans and their close relatives.	Module III – 1 assignment, chapter review questions, and labs 11 and 12. This will be met late in the term.

M. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00--59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at
https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf

North Central State College

SYLLABUS ADDENDUM

Academic Division:	Liberal Arts	**Discipline:**	Physical Science
Course Coordinator:	Dustin Bates		
Course Number:	GEOL – 1030-920	**Course Title:**	Historical Geology
Semester / Session:	Spring 2026 / Session A	**Start / End Date:**	1/12/2026 thru 3/6/2026

Instructor Information

Name:	Ashley Haas	**Credentials:**	Master of Science - Geology
Phone Number:	419-755-4560	**E-Mail Address:**	ahaas@ncstatecollege.edu
Office Location:	Virtual/Online	**Office Hours:**	By Appointment

I. Topical Timeline (Subject to Change):

Weeks	Topics	Assignments/Due Dates
1	• Lecture: Introduction to Earth System History • Lab: Relative Dating	• Introduction to Earth System History Concept Questions – 1/14 • Relative Dating Lab – 1/16
2	• Lecture: Earth Materials & Features • Lab: Rocks & Minerals • Lecture: Geologic Time • Lab: Rock Weathering & Interpretation of Sediments	• Earth Materials & Features Concept Questions – 1/21 • Rocks & Minerals Lab – 1/21 • Geologic Time Concept Questions – 1/23 • Rock Weathering & Interpretation of Sediments Lab – 1/23
3	• Lecture: Life on Earth & Its Fossil Record • Lab: Sedimentary Rocks	• Module 1 Exam – 1/28 • Life on Earth & Its Fossil Record – 1/30 • Sedimentary Rocks Lab – 1/30
4	• Lecture: Biologic Evolution • Lab: Sedimentary Structures • Lecture: Interpreting Sedimentary Environments & Global Change • Lab: Depositional Sedimentary Structures	• Biologic Evolution Concept Questions – 2/4 • Sedimentary Structures Lab – 2/4 • Sedimentary Environments & Global Change Concept Questions – 2/6 • Depositional Sedimentary Structures Lab – 2/6
5	• Lecture: Plate Tectonics in Earth History • Lab: Stratigraphy & Lithologic Correlation	• Plate Tectonics in Earth History Concept Questions – 2/11 • Stratigraphy & Lithologic Correlation Lab – 2/11 • Module 2 Exam – 2/16
6	• Lecture: Archean World • Lab: Fossils • Lecture: Proterozoic World • Lab: Microfossils & Intro to the Tree of Life	• Archean World Concept Questions – 2/18 • Fossils Lab – 2/18 • Proterozoic World Concept Questions – 2/20 • Microfossils & Tree of Life Lab – 2/20

Weeks	Topics	Assignments/Due Dates
7	• Lecture: Paleozoic World • Lab: Invertebrate Macrofossils & Classification of Organisms • Lecture: Mesozoic World • Lab: Fossil Preservation & Trace Fossils	• Paleozoic World Concept Questions – 2/25 • Invertebrate Macrofossils & Classification of Organisms– 2/25 • Mesozoic World Concept Questions – 2/27 • Fossil Preservation & Trace Fossils Lab – 2/27
8	• Lecture: Cenozoic World	• Cenozoic World Concept Questions – 3/4 • Module 3 Exam – 3/6

II. Course Assignments:

1. Concept Questions
2. Laboratory Exercises
3. Module Exams

III. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Concept Questions	12	360	44 %
Laboratory Exercises	11	330	40%
Module Exams	3	132	16%
TOTAL POINTS		**822**	**100%**

IV. Examination Policy:

1. The reasons for which a student will be excused from taking an examination _____
   a. Hospitalization (with documented verification)
   b. Death in the immediate family (with documented verification)
   c. Personal illness or illness in immediate family - (doctor's excuse required)
2. A student who misses an examination for any reason is responsible for _____
   a. Notifying the instructor as soon as possible
   b. Scheduling a time to make up for the missed exam
3. No makeup opportunity will be given for absences of unscheduled quizzes

V. Class Attendance and Homework Make-Up Policy:

1. Attendance Policy:
   a. There are no face-to-face attendance requirements in online sections. It is anticipated that students will be logging into the course frequently (many times each week). Your attendance in online sections will be marked each week as:
   • fully attended (submitting all assignments for the module on time)
   • partially attended (submitting some portion of assignments for the module on time)
   • absent (not submitting any assignments for a module on time)
   b. Students must participate within the first week of the term in order to avoid being dropped for non- participation. This is a college-wide policy. Students must also participate in and achieve at least 67% success by the point of mid term grade reporting to again avoid being dropped from the course for non- participation (another college-wide policy).
2. Homework Make-Up Policy:

a. Students are responsible for completing and turning assignments in prior to the due dates set in Canvas
b. Students are responsible for contacting the instructor via email or Canvas messenger with content questions or to request extensions
c. Assignment extensions are given at the instructor's discretion and point deductions up to 20% may apply
d. Only assignments submitted within one week of the due date will be considered for late grading
e. There are no late assignments accepted after the last day of the term—NO EXCEPTIONS! Any assignments listed with due dates within finals week are final!

VI. Classroom Expectations:

1. Online Delivery:
   a. Although many students report that they learn more in online classes than in face-to-face classes and find the experience more rewarding, online classes are not right for everyone.
   b. In order to decide if online learning is right for you, think about the following questions: Do you have self-discipline (i.e., responsibility to follow a weekly schedule)? Are you motivated to pace yourself and keep up with weekly assignments? Are you able to commit a certain amount of time every week to the course assignments (readings from the textbook and lecture slides, watching assigned videos, taking exams online)? If your answer to these questions is YES, then online learning is the right choice for you.
   c. The true advantage/benefit of an online course is the FLEXIBILITY it provides to the student (you are the one in charge of determining the time and place for studying).