



# Iowa's Geological Resources Workshop for Teachers

Summer 2023



## Can you **DIG** it?

Earn two units of graduate credit and learn about Iowa's geological resources through an activity-based short course (EARTHSCI 6233 Iowa's Geological Resources for Teachers) through the University of Northern Iowa. **This year's focus:** Economic geology and its importance to society through STEM, Iowa Core/NGSS standards and local resources.

The course begins with online content development in the spring to prepare you for the hands-on workshop visiting various geological sites and preparing curricular materials in June.

- Develop rock and mineral collections while obtaining a basic proficiency in their identification.
- Focus on the significance of these items in understanding and interpreting Earth's history and the geology of Iowa.
- Learn of the various economic and environmental aspects of Iowa geology.

### Network with fellow geology educators

Participate in several exciting, hands-on activities in the field, and meet other Earth Science teachers from across the state. Discuss what's working and what's not in your classrooms and share your tried-and-true methods for teaching about the geology of Iowa.

**Application deadline** ..... **Feb. 14, 2023**  
**Online via Zoom**  
**(real time or asynchronously)** ..... **March 7 & 21; April 4 & 18; May 2**  
**On the UNI campus** ..... **June 19-22**



### SPONSORED BY

The **IOWA LIMESTONE PRODUCERS ASSOCIATION**,  
in conjunction with the **UNI Department of Earth Science**,  
with assistance from the **Iowa Geological Survey**.

# WORKSHOP DETAILS

## Schedule

The **online component** of this workshop is offered via synchronous or asynchronous video conferencing (Panopto and/or Zoom) **Tuesdays from 4 to 6 p.m., March 7, 21, April 14 & 18, and May 2**, through a series of two-hour classes covering the principles of geology in Iowa.

The **on-campus component** begins at 8:30 a.m. on **Monday, June 19**, with a reception and check-in on the University of Northern Iowa campus. The workshop ends at approximately 2 p.m. on **Thursday, July 22**.

Each day begins with announcements and an overview of the day's activities. There may also be evening sessions, which consist of special presentations, laboratory work and/or a review of the day's activities. This is an intensive course, and everyone is expected to participate in all workshop sessions.

Applications will be accepted on a first-come, first-served basis. All applicants will be notified on or before Feb. 24. The course is capped at 10 participants.

Course participants will learn through applied fieldwork, interacting with industry experts and scientists, completing geologic lab activities and peer-to-peer discussions.

## Housing

Students who desire housing on the University of Northern Iowa campus should notify Dr. Heinzl, who will help you make arrangements. Housing is air-conditioned. *(Housing and most meal costs are covered by the Iowa Limestone Producers Association).*

## Cost

Due to the generous support of the **Iowa Limestone Producers Association (ILPA)** we are able to offer this workshop for a \$200 registration fee, plus a technology fee of \$38 (*billed upon acceptance*). This includes two units of UNI graduate credit, on-campus housing, most meals, transportation in the field and instructional costs.

## Cancellations

If your plans change and you must cancel, please contact UNI Online & Distance Education at 319-273-7206 or 800-648-3864 as soon as possible so we may allow those on the waiting list the opportunity to attend. Cancellations must be received no later than **March 3, 2023**, in order to receive a full refund of the \$200 registration fee.

## Further information

### SCHEDULES AND FIELD TRIPS

#### **Chad Heinzl, Professor**

Workshop Leader  
UNI Department of Earth and Environmental Sciences

**Phone** ..... 319-273-6168

**Email** ..... chad.heinzl@uni.edu

### REGISTRATION AND BILLING

#### **Jamie Anderson**

UNI Online & Distance Education  
**Phone** ..... 319-273-7206  
**Email** ..... jamie.anderson@uni.edu

### SPONSORS

#### **Iowa Limestone Producers Association**

515-262-8668  **IOWA LIMESTONE PRODUCERS ASSOCIATION**  
www.limestone.org Your limestone resource since 1945!

#### **UNI Department of Earth and Environmental Sciences**

319-273-2759  
www.earth.uni.edu

#### **Iowa Geological Survey**

319-335-1575  
www.ihr.uiowa.edu/igs



**APPLY @ [online.uni.edu/geology](https://online.uni.edu/geology)**

# Iowa's Geological Resources for Teachers

## WORKSHOP APPLICATION

### APPLY NOW!

**Class size is limited to 10 participants.**

*Submit this form via:*

### Online application

[distance.uni.edu/geology](https://distance.uni.edu/geology)

### Mail

Iowa's Geological Resources Workshop  
Online & Distance Education  
University of Northern Iowa  
CEEE 10  
Cedar Falls, IA 50614-0223

### Application Deadline:

Feb. 14, 2023

*Applications will be accepted as received.*

### Acceptance:

Applicants will be notified shortly after receipt of all application materials – or no later than Feb. 24 – and invited to enroll in the course.

**\*Please note:** *the workshop size is limited to 10 teachers. You are encouraged to apply early, as spots fill quickly.*

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Name

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Email

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Home Address

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Home City

Home State

Home Zip

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Home Phone

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School

School District

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School Address

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School City

School State

School Zip

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School Phone

Check here if you have applied for this workshop in the past.

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**How many years have you been teaching?**

**What subjects and grade levels have you taught / do you teach?**

**Why do you think this workshop would be beneficial to you?**

**Please list any current teaching endorsements.**



# TOPICS & ACTIVITIES

## History

- Processes at work in the formation and shape of the landscape and the sediments beneath the surface
- Environments past and present of the landscape and the subsurface
- Rocks, minerals and fossils in the geological record
- Collection and classification of rocks, minerals and fossils

## Processes and Principles

- Stratigraphy, sedimentation, sedimentary environments
- Field activities as classroom events; taking students to the field for learning activities
- Geologic origin of limestone

## Geology and Land Use

- Agriculture, environmental geology; drainage tile, ag wells, aquifers
- Landfills and waste management issues
- Land use and landscape; glacial topography and land use issues
- Resource management and land use

## STEM through Geology

- Develop integrated STEM lesson plans through local hands-on geology activities
- Explore effective ways to meet Earth Science NGSS and Iowa Core Standards in stand-alone Earth Science course or through activities within an existing biology, chemistry, or physics course

## Economic Geology

- Aggregate production and product application
- Sand and gravel operations and product applications
- Relationship of geological processes to locations of aggregate and sand and gravel locations
- Site visits to various economic geology facilities



*The aggregation of preparation, time on tasks, assignments and interactions of this work reflects the rigor and expectation equivalent to 15 hours of direct faculty instruction and a minimum of 30 hours of out-of-class student work for each credit awarded.*

**APPLY @ [online.uni.edu/geology](https://online.uni.edu/geology)**