

THE UNIVERSITY OF MEMPHIS
DEPARTMENT OF EARTH SCIENCES
GEOLOGY FIELD CAMP INFORMATION
2022

Course - ESCI 4622, Geology Field Camp, 6 semester hours of undergraduate credit.

Dates - Sunday May 29 to Wednesday June 30, 2022 (includes travel to and from Memphis).

Location - The camp is in the Black Hills of South Dakota. Residence is in dorms at Black Hills State University, Spearfish, SD. There is also a camping field trip to the Big Horn and Pryor mountains, Wyoming and Montana. The Wyoming trip duration varies from 6 to 8 days.

Prerequisites - Students should have completed courses in Physical Geology, Sedimentation/Stratigraphy, and Structural Geology. A course that included igneous, metamorphic, and sedimentary rock hand specimen identification is also desirable.

General Objectives - Students will learn basic skills needed to conduct successful geological fieldwork and to prepare maps, reports, etc. based upon that work.

Grades - About 75% of the grade is based upon maps, cross-sections, field exercises, and reports. The remainder is based upon a final exam, your field notebook, and faculty evaluation of your effort. There is no post-camp report.

I. Costs

There are two charges:

Field Camp fees

University of Memphis tuition +fees

Field Camp Fees

These fees cover the costs of room, board, supplies, and transportation.

Deposit: A \$100 deposit must be submitted to the University of Memphis at the time of your field camp application (see end of this document). This will be applied toward your field camp fees, not to tuition. We make careful plans and account for every space in an effort to reduce costs. The following refund schedule for the deposit was established to assure that all applicants have equal opportunity.

Withdraw before February 1 - Full refund

Withdraw before March 1 - \$50 refund

Withdraw before April 1 - \$25 refund

Withdraw on or after April 1 - No refund

Room and board for the month: \$750: This is passed on to Black Hills State University. This covers the cost of your double room (single rooms are available for an additional cost of \$275) and three meals per day for weekdays, for the month. It does not cover weekend meals, snacks, meals taken on the trip out and back, meals while we are on the excursion to Wyoming.

Equipment and Supplies: \$550 - Covers camp manuals, equipment maintenance, field notebooks, maps, computers, camping fees, park entrance fees, etc.

Transportation: There are two transportation options - All The U of M transportation, or The U of M transportation in the field only.

All of the U of M Transportation: Cost - \$400. The U of M vehicles are available for those who want to ride from Memphis to the Black Hills and back.

Part Private - Part of the U of M: Cost - \$300. This option is largely for the non-Memphis students who elect to drive or fly to the field area and use The U of M transportation during their stay. See the paragraphs about private cars and flying.

Field Camp Fee Summary: Depending on your transportation option, in addition to tuition you will pay:

With All of the U of M transportation - \$1,700

With Part of the U of M transportation - \$1,600

Please note that these costs are largely controlled by Black Hills State University and miscellaneous costs for running the camp. You should budget additional money for weekend meals, meals on the trip out and back, meals on the trip to Wyoming, gifts, snacks, etc. We recommend a minimum of \$500 for out-of-pocket expenses. A debit or credit card is a big help.

University of Memphis Tuition -

UG Tuition and fees for in-state students \$2,514 (6 credit hours) + \$25 Earth Science Material Fee

UG Tuition and fees for non-TN residents - \$3,522 (6 credit hours) + \$25 Earth Science Material Fee

Tuition payment instructions and deadlines will be provided to you after you complete the camp registration process. The deadline for tuition payment will be available the week of April 1, 2022 on the Bursar website at <https://www.memphis.edu/usbs/calendars.php>.

Once you are accepted to both the U of M and field camp you may register online beginning the week of April 1, 2022 at <http://www.memphis.edu/registrar/register/index.php>. For further details, see below under Registration. If you have questions about the application process contact [Dr. Larsen](#).

II. Admissions

Admission to Geology Field Camp: Admission is on a first come, first served basis. A field camp application form is available from the Field Camp Director (see also at the end of this document). Fill the form out and give or send it to the Field Camp Director by **March 1, 2022:**

[Daniel Larsen](#)

Field Camp Director

Department of Earth Sciences

The University of Memphis

Rm. 113 Johnson Hall

Memphis, TN 38152-3550

At the same time as you submit your application form, proceed to the University of Memphis Marketplace site to pay the **\$100 deposit:**

https://secure.touchnet.com/C20227_ustores/web/store_main.jsp?STOREID=25&SINGLESTORE=true

Follow the on-line instructions for paying the deposit. After paying the \$100 deposit, you will receive an authorization code that will allow you to pay for the field camp fee and transportation.

Payment of your deposit guarantees your reservation slot. If the camp is filled, your payment will be promptly returned. If you are planning to attend with friends, send your applications at the same time and indicate that you want to be accepted as a group. Very early application is essential for groups if you want to be sure all will be accepted.

The balance of the Field Camp fee (\$1,600 or \$1,500, depending on transportation option) **IS DUE BY April 1, 2022**. Again, use the Marketplace site indicated above to pay for the balance of the field camp costs. The following refund schedule for the balance of the Field Camp fee is used to ensure that all applicants have equal opportunity. Notify the Field Camp Director immediately if you plan to withdraw from the Geology Field Camp:

- Withdraw before April 15 - Full refund
- Withdraw before May 1 – 50% refund
- Withdraw before May 15 – 25% refund
- Withdraw after May 15 - No refund

Admission to The U of M: Students not already accepted at The U of M must apply, not only to field camp, but also to The U of M via the Admissions Office. These admission instructions are only for students who are not currently admitted to the University. We cannot finish your field camp application until you are fully accepted at The U of M. Appropriate forms and other information are available on-line at (<http://www.memphis.edu/admissions/>). **APPLY FOR ADMISSION AS SOON AS POSSIBLE.**

You must be accepted to The U of M for credit to be given. You must be a student in good standing (GPA 2.0 or higher on a scale of 4.0) or have graduated from a recognized university or college for admission to the U of M. If you are currently enrolled in a university, the application to The U of M must be accompanied or followed by a statement of standing from your school's Registrar, or a transcript. If you have graduated and are not currently enrolled in a university, you must send a transcript. Colleges take a surprisingly long time to issue transcripts. If you are serious about The U of M's field camp, have the transcript sent immediately. By the time it actually arrives, all your other paper work will be here. Please note this is an **undergraduate** course at The U of M.

Have a statement of standing or transcript sent from your Registrar to the address below. Fill out the U of M admission application form on-line at http://www.memphis.edu/admissions/freshmen/apply_ugrd.php, select the Non Degree application, pay the \$25 application fee and submit the application. The application fee is \$25 to apply by the priority deadline of May 1 for summer.

Admissions Office
101 Wilder Tower
The University of Memphis
Memphis, TN 38152

Direct questions to 901-678-2111.

Registration and Fee Payment:

- U of M students – Refer to the on-line Schedule of Classes and [Bursar web site](#).
- Non U of M students - You can find information through the University of Memphis web page at www.memphis.edu. Go to the admissions web page to apply for admission to the University of Memphis (<http://www.memphis.edu/admissions/>). After you have been admitted you may register online beginning the week of April 1, 2022, at <http://www.memphis.edu/registrar/>. After you have registered, you can pay tuition online on [TigerXpress](#) beginning in late April.

III. Program of Study

We will spend about 30 days in the Black Hills and adjacent Wyoming. The Black Hills of South Dakota provide as many good examples of different types of geology within a short distance of each other as any area in the United States--if not the world. The stratigraphic section is unusually complete and varied. The Precambrian core of the

Hills is outstanding as a terrain for study of igneous and metamorphic rocks as well as pegmatites and ore bodies, and the geomorphology is classic.

Stratigraphic studies begin our study in the Black Hills. While students become familiar with the rock units with which they will be dealing for the remainder of the camp, they are instructed in the methods and techniques of describing and measuring stratigraphic sections. The geologic column of the Black Hills presents a very complete sequence of both Paleozoic and Mesozoic formations representing almost all sedimentary rock types and environments of deposition found in mid-North America. Through stratigraphic studies, students are presented with an excellent opportunity to familiarize themselves with many aspects of sedimentation and sedimentary petrology, as well as stratigraphy.

Stratigraphic and structural studies are combined in the form of 2 to 5 day map problems using topographic base maps, GPS, and computer data. You will work with sedimentary, metamorphic and igneous rocks that are both folded and faulted. In addition to making geologic maps, you will construct cross sections, plot structural data and write geological reports on selected areas. You may also conduct a soils/geomorphology project or a water quality project. **There is no post-camp report.** Field trips to the Central Black Hills and selected areas of Wyoming and Montana afford opportunities to study metamorphic and igneous rocks of several varieties including classic pegmatites. We will visit several mines, active and ghost, and Mt. Rushmore as part of the background geology.

A workday usually starts when the vans pull out at 7:30 a.m. and ends back at the dorm about 5:30 p.m. Students must keep their notebooks and map projects up-to-date in the evenings and weekends. Several night lectures cover the basics of problems to be encountered the following day.

IV. General Comments

Travel Plans: Students using The U of M transportation will assemble at 7 a.m., Sunday, May 29 in the parking lot adjacent to (west of) Johnson Hall for the drive to South Dakota. Those who use their own transportation will meet us at the assigned Black Hills State University dorm on Monday afternoon, May 30. The field camp officially begins on Tuesday, May 31, and ends on Wednesday, June 29, after you have taken your final exam and handed in your notebooks and final project material. Those who rode out in The U of M transportation will return directly to Memphis. Planned arrival in Memphis is early in the morning on Thursday, June 30.

Camp Travel Rules: Note: these limitations apply to those using The U of M transportation to and from SD. Each student who rides to South Dakota in The U of M vehicles is limited to a volume of baggage not to exceed one duffel bag (or medium-sized suitcase) and a bedroll/sleeping bag. Camera, boots, and purse may be carried extra. Please contact the field camp director if you would like to bring a frame backpack (the soft packs are fine; frames take up too much space), musical instruments, large radio-tape decks, etc. Any additional personal effects can be mailed or expressed to the field camp.

Private cars: Students may drive to the field camp in their private cars. Specific directions will be given later. **DO NOT ARRIVE AFTER 5:00 P.M. of the Monday prior to the Tuesday that camp starts.** If you arrive after this time the dorm resident manager may not be available and you may have to take a motel room for the night.

Private cars may not be used in the field. Exceptions to this rule may occur when space considerations in U of M vans dictate. In those exceptional years, private cars may be used in the field but they must follow the university van schedule. You will not be charged travel costs in such circumstances. Note, such years are uncommon, do not plan on using your car in the field.

Flying to Field Camp: If you fly to Rapid City, SD, we can pick you up on Monday on our way past the airport. Coordinate your plans with us before making them final. Getting from Rapid City to Spearfish is not easy without a car.

Camping: Camping out is not permitted during the stay in the Black Hills, except on days off. You must stay in BHSU dorms. Students who are supplying their own transportation may, of course, camp out on the trip to and from SD. Students camp out during the Wyoming trip.

Shots: Tetanus inoculations are required. Shots can be arranged at university health centers or may be administered by any physician.

Health and Accident Insurance: All field trip participants are required to have some sort of health and accident insurance, which will cover them for the duration of the trip. **Bring your personal policy information.**

Acrophobia: We have had problems in the past with students who have a phobia about heights. Although you will never be asked to go where the faculty have not gone before, you will find yourself at the top of some steep-appearing hills from time to time.

Firearms: No firearms of any sort are permitted in the field or in the dorms. Do not bring a gun.

Smoking: The U of M vans and BHSU dorms are non-smoking areas. Smoking in the field and outside the dorm is OK except in the rare drought years when the Forest Service may impose a ban. Many of our exercises are on Forest Service land and we conform to their rules.

Liquor: Possession of or consumption of alcoholic beverages, including beer, is prohibited in the field, in U of M vans, and in BHSU dorms. You can party off-campus in the bars in Spearfish, all of which are within walking distance of the dorms. Drinking age is 21.

Drugs: No drugs (except by prescription).

Pets: No pets of any kind in the dorm or in the field.

Married Students (and co-habiting adults): You are welcome, **provided** you are both taking the course for credit (see guests). We will do our best to arrange for you to be roommates.

Guests: Short visits by family and friends are welcome. However, visitors cannot stay in the dorm, they must take a local motel. **No one may have a "visitor" for the duration of the camp.** This is not a vacation. You will be busy all day and most weekends and evenings with your camp exercises. You will work with another student and it is unfair to your field partner for you to be distracted by the need to entertain someone not in the camp.

Field partners: The majority of projects involve working in pairs, both for physical security in the event of an injury and because much of the work involves cooperation of at least two people. The faculty will choose your partner for the projects.

Recreation: Fishing is excellent in nearby (1/4 mi) streams (~\$30 for SD permit). A community recreation facility (pool tables, swimming pool, handball courts, gym, weight room, etc.) is next to the dorm. A quad movie theater is a mile away.

Shopping: A Wal-Mart is nearby as are many smaller stores.

Wireless: There is wireless internet access in the dorms at BHSU. You will receive information on access once we get to the University.

Emergencies: Have those involved call the Office of Residence Life, Black Hills State University, (605/642-6464) and leave a message to have you call back. You will be in the field all day and out of contact until after 5 p.m. An itinerary of the trip will be provided so that each student can inform family and friends of your whereabouts at any given time.

Address: While in the Black Hills, students will be staying at:

Your Name
The University of Memphis Field Camp
Black Hills State University
Spearfish, SD 57783-1797

V. Equipment

Personal gear and clothing:

FIELD DRESS CODE - all students must wear boots that support the ankle and appropriate clothing (long pants are recommended while in the field).

Also essential is an easily carried rain suit or poncho, and some type of hat.

Beyond these, bring clothes suitable for fieldwork.

Band-Aids, aspirin, cortisone cream, insect repellent, chapstick, poison ivy remedy, and sunscreen may also be needed but these can be purchased locally.

Other recommended items include: cell phone, laptop computer or iPad

Personal clothing and bedding:

long and short pants
field boots
casual shoes
wool and/or cotton socks
T-shirts
several long sleeve shirts, pullovers, or sweaters
jacket (temperatures as low as 30°F may be encountered)
hat
sleeping bag or blanket(s)
sheets for a single bed
pillow and pillowcase
towel, washcloth, and soap

Personal Supplies and Equipment: each participant must supply the following articles of field equipment.

Geologic hammer (Estwing recommended)
Hand lens
Water bottles
Day pack
Sample bags (cloth or ziplock bags)
Rigid steel measuring tape (12 feet or more, longer is best)
Protractor
Set of colored pencils
Ruler or triangular scale with tenths of an inch scale (preferably triangular)
Drawing pens with India ink (Rapidographs #1 and #5 or Micron 005 and 01 recommended)
3H pencils (available at most University bookstores and Art Supply stores)
Clipboard
Calculator (with trig functions)

Equipment and Supplies Provided by The U of M:

GPS mapping system
Laptop computers with mapping, GPS, logging, spreadsheet, and word processing
Field Camp Manuals
Brunton Pocket Transit

Silva Compass
Hand Level
Aerial Photos and Base Maps
Field Notebooks
Acid bottle

Other items:

Tent (only multi-person) (UofM has a few tents, but private tents are commonly needed)
Please contact Dr. Larsen if you would like to bring items other than those listed

**ADMISSION APPLICATION AND INFORMATION
THE UNIVERSITY OF MEMPHIS GEOLOGY FIELD CAMP**

Name _____ Male _____ Female _____

Signature _____

College or University _____ Year in School _____

School Address (where we can write you when school is in session)

Cell Phone (include area code) _____

Home Address (where we can write you when school is not in session)

e-mail address _____

Requirements: Courses equivalent to Structural Geology, Stratigraphy and Sedimentation, and a course in which visual classification of sedimentary, igneous and metamorphic rocks was learned.

Application to The University of Memphis: Please apply for admission on-line at <http://www.memphis.edu/admissions/>. Don't forget the \$25 application fee.

Application to Field Camp: Read the information sheet. Please have a faculty member at your home institution confirm your abilities and preparedness to complete a field camp course. Fill out and send this form (Admission Application) to:

Daniel Larsen
Department of Earth Sciences
The University of Memphis
Rm. 113 Johnson Hall
Memphis, TN 38152
Or by e-mail: dlarsen@memphis.edu

At the same time as you submit your application form, pay for the **\$100 deposit at:**

https://secure.touchnet.com/C20227_ustores/web/store_main.jsp?STOREID=25&SINGLESTORE=true

Follow the on-line instructions for paying the deposit. After paying the \$100 deposit, you will receive an authorization code that will allow you to pay for the field camp fee and transportation.

Transportation: Read the accompanying information sheet and tell us which transportation option you choose (All UofM or Part UofM).

Option _____.

Follow-up: You will be notified promptly about acceptance. Read the information sheet about the refund schedule and the schedule of payment for the balance of our field camp fees and for tuition. Note also the information about registration information from Admissions. You need to pay the balance of the field camp fees by **April 1, 2022** and your University tuition fees by the Fee Payment Deadline indicated on Bursar website at <https://www.memphis.edu/usbs/calendars.php>.

If you are from a University other than University of Memphis, please have a faculty member at your institution fill out the section on the following page.

FOR USE OF GEOLOGY FACULTY AT APPLICANT'S HOME SCHOOL

In my opinion (student) _____ has the necessary academic background and is physically and emotionally capable of geology field work in hilly country.

Signature _____ name (print): _____

Position _____ e-mail: _____

Phone number _____

University _____