

Short-Term Field Study Program Information

Please provide the following information:

Field Study Program Name: Honors Interdisciplinary Field Program
 Field Study (FSTY) Course ID: FSTY 1025
 Field Study (FSTY) Course CRN: TBD
 Semester Program will be Offered: Summer 2024
 Location of Field Study: Various locations throughout the USA (this is a mobile program)
 Program Director/Contact Name: Julia Cox, Paul Schroeder
 Program Director/Contact Phone Number: 706-542-2652
 Program Director/Contact Email Address: juliaec@uga.edu
 Program Start Date (First meeting with enrolled students): 5/31/2024
 Program End Date (Last meeting with enrolled students): 7/29/2024
 Travel Start Date: 5/31/2024
 Travel End Date: 7/29/2024
 Anticipated Number of Total Students Participating in Program: 18-24
 Anticipated Number of UGA Students: 18-24
 Anticipated Number of Transient Students: 0-2
 Anticipated Number of Undergraduate Students in the Program: 18-24
 Total Number of Credit Hours Taken by Each Undergraduate Student: 11-15
 Anticipated Number of Graduate Students in the Program: 0
 Total Number of Credit Hours Taken by Each Graduate Student: NA

Please list each course offered through the program on a separate row below:

Course Title	Course Prefix	Course Number	Credit Hours	Schedule Type	Instructor(s)	Department of Instructor(s)	Course Start Date	Course End Date	Total Lecture Hours	Total Field/ Lab Hours	Total Contact Hours**
Introduction to Anthropology (Honors)	ANTH	2120H	3	Lecture	Thompson, Gragson	Crop & Soil, Anthropology	5/31/2024	7/29/2024	72.5	8.25	76.625
Indians of North America	ANTH	4020	3	Lecture	Thompson, Gragson	Crop & Soil, Anthropology	5/31/2024	7/29/2024			
<i>Program requires each student register for 3hrs ANTH with options above.</i>									<i>ANTH courses overlap in content. All students are required to attend all lectures and participate in all activities.</i>		
Ecological Basis of Environmental Issues (Honors)	ECOL	1000H	3	Lecture	Kaitlin Farrell, GTAs	Ecology	5/31/2024	7/29/2024	89.25	25.75	102.125
Ecological Basis of Environmental Issues Lab	ECOL	1000L	1	Supervised Lab	Kaitlin Farrell, GTAs	Ecology	5/31/2024	7/29/2024			
Ecology of North America + Lab	ECOL	4160-4160L	4	Lecture	Kaitlin Farrell, GTAs	Ecology	5/31/2024	7/29/2024			
<i>Program requires each student register for 4hrs ECOL with options above.</i>									<i>ECOL courses overlap in content. All students are required to attend all lectures and participate in all activities.</i>		
Physical Geology (Honors) + Lab	GEOG	2350H-2350L	4	Lecture	Cox, Schroeder	Geology	5/31/2024	7/29/2024	134.0	34.0	151.0
Historical Geology (Honors) + Lab	GEOG	2360H-2360L	4	Lecture	Cox, Schroeder	Geology	5/31/2024	7/29/2024			
Geology of North America + Lab	GEOG	4330-4330L	4	Lecture	Cox, Schroeder	Geology	5/31/2024	7/29/2024			
<i>Program requires each student register for 4-8hrs GEOG with options above.</i>									<i>GEOG courses overlap in content. All students are required to attend all lectures and participate in all activities.</i>		

*Please work with department schedulers and OIE to ensure that all academic courses are scheduled in the same Part of Term as the program FSTY course.
 Please also complete the Academic Itinerary found on the second worksheet of this document.

**Total Contact Hours = Total Lecture Hours + (Total Field Hours / 2)
 Courses require 12.5 contact hours for each credit hour earned

For questions, please contact the Office of Curriculum Systems at csfieldstudy@uga.edu or 706-542-6358.

Academic Itinerary

Field Study Program Name: Honors Interdisciplinary Field Program

Field Study (FSTY) Course ID: FSTY 1025

Program Start and End Dates: 5/31/2024 - 7/29/2024

Instructors and Courses Taught:

Instructor	Course(s) Taught
Jennifer Thompson et al.	ANTH 2120H, ANTH 4020
Kaitlin Farrell et al.	ECOL 1000H, ECOL 1000L, ECOL 4160-4160L
Julia Cox et al.	GEOLOGY 2350H-2350L, GEOLOGY 2360H-2360L, GEOLOGY 4330-4330L

Each course has 3-4 instructors alternately spending 2-4 weeks with the program. The listed primary instructor coordinates with all faculty to ensure content coverage, learning outcomes, and contact hours.

The courses overlap in content. All students are required to attend all lectures and participate in all activities during the program.

Faculty and students do everything together as a group. Instructors are always present and available to students (on hikes and tours, in camp, etc).

The IFP is academically rigorous with very little down time for students, as shown in the schedule below.

Day	Time	Activity	Contact Hour Notes	GEOLOGY			ECOLOGICAL			ANTHROPOLOGY		
				Lecture	Field/Lab	Total Hours	Lecture	Field/Lab	Total Hours	Lecture	Field/Lab	Total Hours
				134	34	151	89.25	25.75	102.125	72.5	8.25	76.625
1		Ocmulgee, travel to coast										
	715	Staff arrival										
	730	Meet at Geology/Geography parking lot; load truck										
		Brief organizational meeting in room 200 A; introductions and instructions, distribute notebooks, hand	class meeting	0.25			0.25			0.25		
	745	lenses, etc										
		Cooks + truck depart for Ocmulgee to prepare picnic lunch										
	830	Departure from UGA										
		Arrive Sparta granite outcrop; first field activity, go over proper use of field notebooks, rock hammers (3.5	lecture and field activity (instructor-led)	1.5			0.5					
	1000	mi SE of Sparta center)										
	1200	Leave Sparta outcrop										
	1300	Arrive Ocmulgee National Monument. Eat lunch.										
	1400	Tour mounds and museum	lecture and tour (instructor-led)							2.25		
	1630	Departure from Ocmulgee NM										
		take I-16 east to exit 98. Then take GA57 south to Glennville, Ludowici, then Townsend (about 3 hrs).										
	1900	Arrive at campsite, Townsend, GA. Dinner										
		Organizational meeting and instructions for packing truck in AM. Camping gear not needed and should be										
	2000	loaded first. Provided on Sapelo: bed linens and pillows. Towels NOT provided.										
2		To Sapelo										
	615	Breakfast (bags to truck at 0615). Pack lunch.										
	730	Leave campsite and head to dock for ferry										
	745	Arrive Sapelo ferry dock (Meridian, GA). Load gear and people onto ferry.										
	830	Ferry departs for Sapelo.										
	900	Arrive on Sapelo and ride to UGA Marine Institute.										
		Unpack, assign rooms (Auditorium building code: 1 4 5) (break room code 8 9 10) laundry code 2122										
	1030	Lecture: Introduction to Earth Systems & Plate Tectonics	lecture	1								
	1130	Lunch break										
	1230	Lecture: Introduction to Ecology (JOHN); assign salt marsh papers	lecture				1					
		ASSIGN PAPERS: Southeast Water and Soil, Salt Marsh Eutrophication										
	1330	Break										
	1345	Lecture: Introduction to Anthropology	lecture							1		
	1445	Break										
	1500	Lecture: Geochemistry & Mineralogy	lecture	3								
	1800	Dinner										
	1930	Distribute ipads, give instructions and assignments	class meeting	0.25			0.25			0.25		
	2030	trip to the beach										
3		Sapelo										
	700	Breakfast. Pack lunch.										
	800	FIELD EXCURSION: Salt marsh	lecture and field activity (instructor-led)	0.5			1.5					

	1000 Return from field, clean up								
	1100 Lecture: Key Concepts in Anthropology	lecture							1
	1200 Lunch Break								
	1300 Lecture: Rock Cycle and Igneous Processes	lecture	2.5						
	1530 Break								
	1545 Lecture: Marine Invertebrates & Geologic Time Scale	lecture	1.25		1				
	1800 Dinner								
	1930 Lecture: Weathering and Sedimentary Processes	lecture	1.5						
4	Sapelo								
	700 Breakfast. Pack lunch.								
	800 Lecture: Methods and Ethics in Anthropology	lecture							1
	900 FIELD EXCURSION: Hog Hammock Tour	guided tour							3
	1200 Lunch break								
	1300 Lecture: Introduction to Cultural Anthropology	lecture							1
	1400 Break								
	1415 Lecture: Stress, Deformation & Metamorphism	lecture	1						
	1515 Break								
	1530 Lecture: The Rock Cycle and Rock ID	lecture	2.5						
	1800 Dinner								
	1930 Videos: The Beaches are Moving, current volcanism	videos and class discussion	1.5						
5	Sapelo								
	700 Breakfast. Pack big lunch (long day).								
	800 Lecture: Hydrology and Groundwater Resources	lecture	1.5						
	930 FIELD EXCURSIONS (split into two groups):								
	Trawl in Doboy Sound (half group goes to Nannygoat)	field activity (instructor-led)			2				
	Nannygoat Beach - water table (half of group does trawl)	field activity (instructor-led)	2						
	1330 Lunch break								
	1400 FIELD EXCURSION: Shell Ring, Raccoon Bluff, Cabretta Beach								
	1430 Shell Ring (quick stop at Chocolate after Shell Ring)	field activity (instructor-led)							1.5
	Raccoon Bluff	field activity (instructor-led)	1						
	Cabretta	field activity (instructor-led)	0.5		0.5				
	1830 return								
	1900 dinner								
	2000 Study time & Mandatory Staff Meeting								
6	Sapelo - Exam 1								
	700 Breakfast. Pack lunch.								
	800 EXAM	exams	1		1				1
	1100 rest of day off for laundry, cleaning, relaxing on beach								
	staff grades exams and field notebooks								
	1800 dinner on the beach!								
7	Okefenokee, Kolomoki								
	630 Breakfast. Bags to trucks at 0615.								
	700 Final cleaning								
	730 Departure for ferry dock								
	800 Ferry to mainland								
	Arrive Meridian dock. Pack truck with gear. Visit Meridian Visitor Center (opens 7:30am Tues-Fri, 8am Sat)	visitor center		0.25			0.25		0.25
	900 depart for Folkston GA (use Apple map app to navigate to 2700 Suwannee Canal Rd, Saint George GA)								
	1030 Okefenokee NWR Visitor Center, Swamp Island Drive, hiking trails	lecture and field activity (instructor led)	1.25		1.25				
	1300 depart for Kolomoki (call Kolomoki to tell them ETA - they are staying open late for us)								
	1330 gas stop Flash Foods 1736 S Georgia Pkwy W, Waycross, GA 31503								
	1700 Arrive Kolomoki Museum. Tour museum and Temple Mound.	lecture and guided tour							1.5
	1830 Arrive in camp, Kolomoki Mounds SP								
	1900 Dinner								
	2000 Camp meeting: crew assignments, logistics								
	ASSIGN PAPERS: Nutrient pollution (assign ECOL 4160 lead 15-min discussion of nutrient phases)								
8 EDT->CDT	Providence Canyon								
	600 Breakfast (Bags to the van at 0545)								
	700 Leave for Providence Canyon								
	Arrive Providence Canyon. Overlook, hike canyon, discuss stratigraphy, diagenesis, groundwater erosion,								
	800 stream erosion and deposition	lecture and field activity (instructor led)	3		1				
	1200 Leave Providence Canyon (navigate to Eufala, Montgomery AL)								
	ASSIGN VIDEO: Earth Revealed - Rivers & Landforms (2 videos)	videos and class discussion in van	1.25						
	ASSIGN VIDEO: A Tale of Two Rivers	videos and class discussion in van			1.25				

1130 (CDT) Enter Alabama and Central Daylight Time
 1300 (CDT) Gas stop near Montgomery.
 Travel on US80 business route to cross historic Edmund Pettus bridge.
 1600 (CDT) Stop, Mississippi Visitors Center
 1800 arrive camp - LeFleur's Bluff State Park, Jackson MS
 1830 dinner
 1930 Lecture: Hominid evolution lecture
 ASSIGN PAPER: Economic importance of Bats

1

9 All times CDT Poverty Point, drive to Texas

600 Breakfast (bags to van at 0545)
 700 Departure
 Mississippi River overlook, lecture (Mississippi River, Gulf of Mexico dead zone, Pleistocene loess deposits) lecture
 800 Depart
 To get to Poverty Point from I-20, take the Delhi exit (exit 153) and travel N on LA-17, E on LA-134 and N on LA-577 (follow the signs)
 1000 Arrive Poverty Point, video, museum, tram tour and atl atl toss. guided tour
 1230 Leave Poverty Point.
 ASSIGN VIDEO: HHMI Evolution lectures (2 lectures) videos and class discussion in van
 ASSIGN VIDEO: Haynesville videos and class discussion in van
 1830 Arrive in camp - Loyd Park, Grand Prairie TX
 1900 Dinner
 2000 LECTURE (ECOLOGY): Nutrient biogeochemical cycles (ECOL 4160 leaders for 15 min max)

0.5

0.5

2.25

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1.5

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10 CDT->MDT Permian Basin, drive to Guadalupe Mtns

615 Breakfast (bags to van at 0600)
 715 Leave camp
 ASSIGN VIDEO: Gasland videos and class discussion in van
 Eastland Cty rest area at exit 361 - new and nice rest area
 915 GOOD GAS STOP ON I-20 at town of CISCO approx at exit 330
 ASSIGN VIDEO: Your Inner Fish (55 mins) videos and class discussion in van
 ASSIGN VIDEO: Your Inner Monkey (55 mins) and Ardipithecus videos and class discussion in van
 1300 Permian Basin Petroleum Museum in Midland TX (group tour) guided tour
 1530 Depart for camp
 1730 (MDT) Enter Mountain Daylight time (NM and far west TX)
 1745 (MDT) Arrive in camp Pine Springs Campground, Guadalupe Mtns NP
 1830 (MDT) Dinner
 1930 (MDT) Lecture: Paleozoic reef communities and Permian Basin paleogeography lecture

1.75

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0.5

11 Guadalupe Mtns/Carlsbad Caverns (all times MDT)

630 Breakfast; pack lunches
 730 Depart for McKittrick Canyon (entrance gate opens 8AM MDT (not CDT))
 800 have students sketch reef profile before hiking up slope; hiking safety talk lecture and field activity (instructor-led)
 hike Permian Reef trail (8.4 mi roundtrip, 2000' elevation gain); geologic markers along trail (look for and sketch fossils; note reef facies changes)
 students should identify and sketch a marine invertebrate fossils they find on the trail (at least one per phylum, class)
 Ask students to sketch an elevation profile of the vegetation from the base to the summit of the mountain. How does this vegetation profile compare to those on the Sapelo beach and salt marsh profiles? Think about abiotic factors that influence the biotic communities.
 1300 return to vans
 1330 Guadalupe Mtns Visitor Center tour
 1430 return to camp
 Lecture: Economic importance of bats and conservation/disease ecology, ASSIGN PAPER: Archaeology-ecology lecture
 1530 ecology
 1700 dinner
 1830 Drive to Carlsbad Caverns for bat flight program.
 1930 Bat flight program ranger-led program
 2130 return to camp

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12 Carlsbad Caverns, drive to Santa Fe (all times MDT)

615 breakfast (bags to truck 600), make lunches
 715 depart camp
 730 stateline (evaporites) roadcut lecture and field activity (instructor-led)
 Arrive Carlsbad Caverns, lecture on cave carbonate dissolution and deposition (what is source of acid here?)
 900 here?)
 930 Natural Entrance tour (opens at 8:30; last entrance 3:30 (4pm if using elevator)) tour
 students should sketch a number of depositional feature in their field notebooks
 1230 leave for Santa Fe
 ASSIGN VIDEO: Valles Caldera video and class discussion in van
 1430 gas stop Roswell (Chisum Travel Center on L heading out of town)
 1800 Arrive in camp - Rancheros de Santa Fe (ask for permission to use laundry room after hours)
 1830 Dinner

0.75

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3

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	Lecture: U.S. Physiographic provinces; Federal government agencies and public land use; petroleum production	lecture	1.5						
13	Day Off in Santa Fe								
14	Bandelier National Monument and Valles Caldera (All times MDT)								
	615 Breakfast								
	715 Leave camp								
	Arrive Bandelier National Monument (MUST arrive before 9am to drive into park, otherwise must take shuttle), tour ruins, museum (2 mile roundtrip hike)	guest lecture, guided tour						3.25	
	1200 Leave Bandelier for Valles Caldera								
	1245 Valles Caldera overlook; caldera volcanics lecture	lecture	1.25						
	1415 Meeting NSF-CZO Field Station managers to discuss current CZO operations.	guest lecture	0.5			0.75			
	1530 Valles Caldera visitor center	visitor center		0.25			0.25		
	if time: roadstops at South Mtn rhyolite dome, pumice, and obsidian outcrops along NM4 west of caldera								
	1600 head to camp								
	1800 Dinner								
	LECTURE (ECOLOGY) 4160 students assigned to give 5-10 minute overview of 1) Archaeology-ecology and ecological succession and legacy of environmental disturbances	lecture				1.5			
	1930 NOTE clothing for tomorrow should be appropriate for Acoma visit. No tank tops or short shorts. Respectful clothing please. Also, pottery and jewelry will be on sale at Acoma. Many vendors only take CASH.								
15	Acoma Pueblo, Chaco Pueblo Bonito (All times MDT)								
	600 Breakfast (bags to truck 545)								
	Leave camp for Acoma Pueblo. Travel South on I-25 to Albuquerque. Then travel West on I-40 for approximately 55 minutes. Exit at Exit 102, continue to the roundabout and cross over I-40 following the signs to Acoma/Rest Area. At the last roundabout exit at the second right and head to the bottom of the small hill with a Stop sign, turn right and follow the signage to Sky City Cultural Center/Haak'u Museum. You will travel through the small village of Acoma for approximately 5 miles then turn left and follow the signs to Sky City Cultural Center/Haak'u Museum approximate drive is 15 miles from I-40.								
	700 ASSIGN VIDEO: The Mystery of Chaco Canyon	video and class discussion in van						1	
	arrive Sky City Cultural Center/Haaku Museum for check-in (NOTE: there is NO note-taking allowed in the museum or during the tour. Also, photography only allowed with camera permit - can be obtained with entrance ticket)								
	930 Acoma guided tour begins (board shuttle to begin)	guided tour						2	
	1200 Museum	museum							0.5
	depart for Chaco (I-40W to exit 53, take 371 to Hwy 9 and 57 to Chaco. (Another option - I-40W to Exit 79, take Hwy 605 to 509 to Hwy 9 and 57). See map in excursions folder. Route involves 20 miles of dirt road on 57. CALL CHACO FIRST TO CHECK ON ROAD CONDITIONS 505-786-7014.								
	1230 gas stop Grants exit 79								
	ASSIGN VIDEO: What Was Chaco	video and class discussion in van						1	
	1400 Arrive Chaco visitor center	visitor center		0.25			0.25		0.25
	1500 tour Pueblo Bonito, Casa Rinconada	guided tour (instructor-led)						2.5	
	Arrive at camp, Gallo Group Camp (on the right as you enter the park before the visitor's center. Drinking water available at the visitor's center parking lot. Water in the camp ground not potable due to mineral content.)								
	1730 Dinner (also pack lunches tonight to save time tomorrow)								
	1930 lecture - Ancient Pueblos, Paleoclimatology	lecture	0.5					1	
16	Chaco Pueblo Alto hike (All times MDT)								
	600 Breakfast (bags to truck 545)								
	Leave on Pueblo Alto hike (5.4 mile loop) (trails open 7am) - compare sandstone features to Sapelo beach; also ask students to think about predominant erosional factors here - what causes box canyons?	lecture and field activity (instructor-led)	2	1		1		1	
	1300 Last hikers return to vans								
	depart after final stop at visitors center (follow route to US 550, Nageezi via 7950 and 7900 (13 miles of dirt road on the way out))								
	1330 gas stop Aztec (Roadrunner Fuels 800 S Main Ave, Aztec, NM 87410) - comment on San Juan Basin oil and gas	lecture	0.5						
	arrive Mesa Verde visitor center (outside park entrance); purchase tour tickets for Balcony House (more adventurous) or Cliff Palace (larger)	visitor center							0.5
	arrive Morefield group campground. Check in at store first. Then select group campsite(s) - the first two sites on the right work well (sites #16&17).								
	1800 dinner								
	1930 Lecture - Colorado River hydrology	lecture	1.25						
	ASSIGN PAPERS: Drying of the West, Unplugging the Colorado River								
17	Mesa Verde pit houses and cliff dwellings (All times MDT)								
	630 Breakfast, make lunches								
	730 Leave camp								
	830 Mesa Top Loop - pit houses and Sun Temple	lecture and tour (instructor-led)						2.5	
	1100 Museum tour	tour		0.5			0.5		1
	1400 Balcony House tour (must purchase tickets in advance)	ranger-led tour						1	

1500 Cedar Tree Tower - hike Farming Terrace trail (0.5 mile loop) instructor led field activity
 Park Point overlook - overview of Four Corners geology (go to right at top lookout for overlook of Mesa
 1630 Verde canyons, Sleeping Ute, Shiprock) lecture
 1730 Return to camp
 1800 Dinner
 Evening hike to Point Lookout to watch sunset (2.2 miles roundtrip from campground amphitheater
 1930 parking lot). No lecture on top. ASSIGN PAPERS: Fossil and Renewable Energy papers.

0.25
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 0.25
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18 MDT to MST Four Corners, Grand Canyon South Rim

630 Breakfast (Bags to truck at 0615)
 730 Leave camp
 Stop at Mancos Shale just outside of park, fossil hunting & ID. (pull off in acceleration lane heading N on
 800 160) field activity (instructor led)
 900 depart for Goosenecks
 1100 Goosenecks State Park (overlook incised meander) lecture
 1200 head to Arizona via Monument Valley
 1430 (MST) Grand Canyon Desert View Watchtower lecture
 (MST) Arrive Ten-X (Kaibab NF) campground, south of Tusayan. Group sites through the gate to right of
 1630 campground host.
 1700 Dinner; pack lunches for tomorrow
 1830 Lecture Grand Canyon geology lecture
 also cover hiking safety, hydration, hyponutremia. For hike: no sandals, must have at least 2L of water
 (use one bottle for gatorade), must have a hat and coverage for neck. Pack clean clothes & shower stuff
 for after hike.

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 0.5
 0.5
 0.5

19 All times MST Grand Canyon Mapping. (All times MST)

430 Breakfast (lunches packed last night)
 500 Leave camp
 530 Arrive at Bright Angel Trailhead around sunrise
 600 Start mapping field activity (instructor-led)
 1000 Three Mile House (complete mapping here)
 1100 Start return, those going to Indian Gardens should be there.
 1200 Those going to Indian Gardens should be back at three mile house. Trip leader ALWAYS! in front.
 1300 Direct hikers back to Bright Angel Lodge; a van-full can head to showers in Mather Campground
 1400 Indian Garden hikers should be above mile and a half house
 1500 All hikers should be out and headed for showers.
 1600 Most should be on way to camp, last hikers may be at showers.
 1700 Dinner
 1830 Instructions for geologic map completion lecture

2.5
 2.5
 1

20 Day off Flagstaff

21 All times MST Grand Canyon Overlooks, Glen Canyon Dam (All times MST)

ASSIGN PAPER: Desert plant adaptations
 530 Breakfast (bags to truck at 0515)
 630 depart
 Grand Canyon overlook stops (Grandview, Lipan); lecture GC environmental issues (air quality, U mines,
 700 water quality) lecture
 830 Little Colorado gorge overlook (9.4 miles west on SR 64 from US Highway 89)
 Lecture - global carbon cycling lecture
 free time for jewelry/pottery shopping
 1100 Cameron gas stop (CameronTrading Post)
 lecture - Navajo/Hopi lecture
 1215 leave Cameron for Page via US89
 1345 arrive Glen Canyon Dam visitor center (tour scheduled for 1415 MST, must arrive 30 mins early) visitor center
 Do not bring bags, food, or anything to drink other than water (camera, clear water bottle, wallet, cell
 phone ok). Water fountains are not working in the Visitor Center this year, so bring water! guided tour
 1600 arrive camp Wahweap
 1700 Dinner
 1830 swimming, laundry, complete maps

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 0.25
 0.25
 0.75
 0.75

22 all times MDT Grand Staircase, Bryce, drive to Zion (travel in Utah, return to MDT)

600 (500 MST) Breakfast (bags to truck 545); turn in GC maps
 700 (600 MST) depart camp
 arrive Grand Staircase entrance at Cottonwood Canyon Road (17.7 miles from AZ/UT border, about 10.5
 730 miles west of Big Water) lecture

0.5
 0.5
 0.5

head N toward Bryce via Cottonwood Canyon Rd through Grand Staircase-Escalante National Monument (est 1996 by Clinton & was very contentious; first nat monument run by BLM)

930	hike Cottonwood Narrows slot canyon (3.5 mile loop or leave 1 van at southern trailhead parking area) The southern trailhead is 24.4 miles up Cottonwood Canyon Rd (CCR) from US-89 (northern trailhead is 1 mile further). Set your odometer!!	field activity (instructor-led)	1			1		
1200	Cannonville GSENM visitor center (closed Mon and Tues), brief stop							
1330	arrive Bryce - hike Navajo Trail (1.3 mi loop from Sunset Pt) (note paleosols)	lecture and field activity (instructor-led)	1	1				
1530	Bryce Canyon visitor center	visitor center		0.25			0.25	
1600	depart for Zion							
1700	Mt Carmel Junction (gas)							
1800	arrive campground (Watchman campground in Zion NP)							
1830	dinner (make lunches for tomorrow - pack plenty for long hiking day)							
1930	LECTURE (ECOLOGY): Fossil and Renewable Energy Resources Instructions for measuring stream discharge divide into stream gauge/hiking teams for tomorrow		0.5			1		
23	Zion Canyon. (All times MDT) Student teams complete assigned GEOL and ECOI focus questions at various locations in the canyon. Completion of Virgin River discharge measurement by each team required. Sandals not recommend for Narrows hike. Hiking shoes work well. Keep cameras etc in waterproof containers							
500	Breakfast							
530	walk to visitors center for shuttle							
600	shuttle service starts up canyon	field activity		2.5			2.5	
1600	last hiker boards shuttle back to camp							
1700	Arrive in camp.							
1800	Dinner							
1900	Exam review		0.25			0.25		0.25
24 MDT->PDT	Exam 2, drive to Las Vegas (gain 1 hr in Nevada) For power plant tour today: students need to wear power plant appropriate clothes and solid shoes --- which means no open-toed shoes, no flip flops; no shorts. Short-sleeved shirts are A-OK							
630	Breakfast (bags to truck at 0615)							
730	EXAM 2		1			1		1
1045	depart camp (check out time is 11am) brief stop LaVerkin Overlook to discuss Hurricane Fault (western boundary of CO Plateau)		0.5					
1115	head toward St. George and Las Vegas							
1130	(PDT) enter Nevada, gas stop in Mesquite							
1245	(PDT) arrive Harry Allen Generating Station for tour (tour scheduled 1pm PDT with plant manger)	guest lecture and guided tour	1.5			1.5		
	Take exit 64, to US-93/Great Basin Highway, Go under freeway to the west; Take an immediate right on a frontage road that parallels I-15 northeast; Turn left at power plant sign; Travel (carefully/slowly because of tortoise protections) northwest for about 2 miles ... and follow signs to the plant. Security will check you in: all bags must be left on the bus; cell phone photos and cameras are OK.							
1600	(PDT) check into Las Vegas Hostel (check in starts 3pm) park vans and truck in fenced lot adjacent to hostel. Hostel desk clerk has the key.							
1630	(PDT) evening off (pool, dinner out, sight seeing at strip) Nobody walks/explores alone. Split into groups depending on desired restaurant and sight seeing. Downtown Container Park has good meal options.							
2200	(PDT) curfew							
25 All times PDT	Death Valley and Owens Valley (all times PDT)							
600	Breakfast (set up in hostel kitchen), (bags to truck at 0545)							
700	Leave camp. ANTH: Assign Manzanar reading and podcast; Assign TED talk "How language shapes the way we think" (pod will show up as a song in Music)	video and class discussion in van						1
815	Gas stop Pahrump, brief lecture on Basin&Range/Great Basin		0.5					
	ASSIGN VIDEO: Cadillac Desert I-III	video and class discussion in van	1			1		
1015	Badwater Basin	lecture and field activity	0.5			0.5		
1130	Visitors center at Furnace Creek	visitor center		0.25			0.25	
1230	Leave Visitors center. ASSIGN VIDEO: Cadillac Desert I-III (continued)	video and class discussion in van	1			1		0.25
1430	Gas stop Lone Pine, Alabama Hills granite weathering For Alabama Hills stop, head W on Whitney Portal Rd, drive 2.5 miles to Movie Flat Rd and turn right. After 1.5 miles go right at the Y in the road. There will be Natural Arch trailhead parking area immediately on your left.	lecture and field activity (instructor led)	2					
1700	Depart for Big Pine From highway 395 in Big Pine, CA, turn west on Crocker Street, proceed 8 miles west - campground will be on your left after you have entered the forested area.							
1800	Arrive Big Pine Canyon, we have both Clyde Glacier and Palisade group sites							
1830	Dinner							
1930	LECTURE (ECOLOGY): Life history adaptation	lecture				1.25		

26	Ancient Bristlecone Pines, Manzanar								
	600	Breakfast (bags to truck 615) Make lunches							
	700	Leave camp. ASSIGN VIDEO: Living History The Ancient Bristlecone Pine	video and class discussion in van				0.5		
	815	Ancient Bristlecone Pine Forest (visitor center open daily 10am-4pm)							
		ECOLOGY: Discuss organismal life history traits - longevity	lecture				1		
		Geology: Topographic maps	lecture						
		hike Discovery Trail (1 mile loop) (or Methuseleh Trail (4 mile loop) if time) (could also add Cabin loop		0.75					
	1000	trail), topo map exercise	field activity		1			1	
	1200	Bristlecone visitor center	tour					0.25	
	1230	depart for Manzanar							
		Manzanar National Historic Site (open daily 9-4:30), 5001 Highway 395							
	1300	Independence, CA 93526		1.5			1.5		
		video, museum, driving tour of grounds, discussion	instructor-led tour, discussion						2.5
1600	depart for camp								
	Assign video: A Place Without People	video and class discussion in van						1	
1730	Arrive Mammoth Lakes Campground. From US 395, take California route 203 toward Mammoth Lakes.								
1800	dinner								
1930	lecture on regional geology, geothermal energy; ASSIGN PAPERS: California water crisis	lecture	1.25						
	students could pack bathing suit, towel for dip in Mono Lake								
27	Mono Lake, Mammoth Geothermal Plant								
	630	Breakfast							
	730	Leave camp							
	815	arrive Mono Lake South Tufo area, meet ranger for tour (tour time set for 830)	guest lecture and guided tour	0.5			1.5		0.5
		Navy Beach for a swim, if time							
	1100	Mono Lake visitor center - ECOLOGY: Endangered Species Act and Watershed Conservation	visitor center		0.25			0.25	
	1200	depart for Mammoth							0.25
	1245	Stop at Obsidian Dome, lecture	lecture, field activity	1					
		Mammoth Pacific Geothermal tour (Cheryl Eanes <ceanes@ormat.com>; 760-934-4893x44770) (Jct Old							
		Hwy 395 & Hwy 203 - can see plant from 203 - turn L on Antelope Springs, then R on Casa Diablo. Go to							
	1415	metal bldg on R)	guest lecture and guided tour	1			1		
1630	return to camp								
1700	early dinner								
	Lookout Mountain for view of Long Valley, lecture, obsidian collecting. Directions here:								
1830	https://volcanoes.usgs.gov/volcanoes/long_valley/long_valley_sub_page_18.html	lecture	1						
28	Day off Mammoth Lakes								
29	Olmsted Point, Tuolumne Grove hike								
	630	Breakfast (bags to truck at 0615)							
	730	Leave camp for Yosemite							
		ASSIGN VIDEO: Earth Revealed Glaciers	video and class discussion in vans	0.75					
	830	Gas stop Lee Vining (Tioga Gas Mart on Tioga Rd); proceed on Tioga Rd into Yosemite							
		Olmsted Point - glacier lecture and geologic history of Sierra Nevada (Mz igneous arc, recent uplift,							
	930	glaciation)	lecture and field activity (instructor-led)	2			0.5		
		hike up slope on N side of road - observe/sketch textural features of granite							
		and evidence of glaciation							
		Tuolumne Grove hike (1 mi hike to grove, 2+ miles roundtrip, 500' elevation loss/gain) - contrast climate							
1230	and slope conditions here to east side of Sierras; discuss ecology of giant sequoias	lecture and field activity (instructor-led)				2	2		
1630	Leave for camp.								
1700	Arrive in camp, Lone Pines Stanislaus NF.								
1730	Dinner (pack lunches for early hike tomorrow)								
	LECTURE (ECOLOGY) - California's Water Crisis: papers, Water Footprint, Yosemite's Twin, water-								
1900	energy-food nexus					1			
30	Yosemite Valley								
	415	Breakfast							
	500	Leave camp							
		Glacier Point Overlook - sketch glacial erosional features; discuss granite jointing and exfoliation (drivers							
	700	take vans to Yosemite Village or Happy Isles)	lecture and field activity (instructor-led)	1					
		hike Panorama Trail to Illioullette, Nevada, Vernal Falls (8.3 mi one-way) - observe current predominant							
		(post-glacial) erosional processes (have hikers wait/meet at trail junctions to keep group together and							
	830	discuss)	field activity (instructor-led)	1	1.5		1	1.5	
1400	arrive Happy Isles trailhead in valley; take shuttle to Yosemite Village								
1430	Yosemite Village - visitor center and museum; focus on exhibits related to human history in Yosemite								
	depart for camp		0.25				0.25	1	
1700									
1830	Dinner								
1930	lecture: Environmental Anthropology	lecture						1.5	
31	Western Metamorphic Belt, San Joaquin Valley								

37	Crater Lake NP							
	630 Breakfast (bags to van at 0615); Make lunches							
	730 Leave Camp							
	830 gas stop - Pilot on 97N just after Klamath Falls							
	1015 Arrive Crater Lake Rim Village - visitor center	visitor center	0.25			0.25		
	Crater Lake lectures - Native American belief&ceremony, Mazama geology	lecture	0.5					1
	1300 Hike Cleetwood Trail to lake shore (trailhead 4.5 miles east of North Junction)							
	observe/sketch/describe volcanics along trail	field activity		1				
	Lake ecology lecture	lecture				1		
	1500 Be at vans to leave for camp							
	1730 Arrive in camp (Tumalo State Park)							
	1800 Dinner							
	1900 Exam review		0.25			0.25		0.25
	38	Exam 3, Warm Springs Museum						
630 Breakfast (bags to van at 0615); Make lunches								
730 Exam			1			1		1
1100 Depart - Head N on Hwy 97 past Redmond and Madras to Warm Springs.								
Warm Springs Museum (Anthropology) OPEN Tuesday - Saturday 9 am - 5 pm CLOSED Sunday and Monday Pay entrance fees etc on arrival. This is a tribal owned and managed museum. 541-553-3331		guided tour						2
1415 Depart - Head N on Hwy 97 past Redmond and Madras to Warm Springs.								
1645 arrive Battleground Lake SP								
1700 Early Dinner, pack breakfast and lunch for next day								
1830 all vans depart for Climber's Bivouac (leave truck in Battle Ground)								
1945 arrive bivouac								
39	Mount St. Helens hike							
	500 Wake, dress, eat breakfast							
	530 Begin on Ptarmigan Trail to Monitor Ridge	field activity		4				
	1500 Complete hike							
	1600 recovery time, return to camp at Battle Ground Lake							
1800 dinner								
1930 no lecture tonight								
40	Day Off Portland							
41	Johnston Ridge, Toutle River							
	630 breakfast, make lunch							
	800 depart for Spirit Lake Hwy (Hwy 504, exit 49 from I-5)							
	900 MSH Visitor Center at Silver Lake (WA State Parks facility) \$5/person, open daily 9-5	lecture and visitor center (instructor-led)	2					
	1130 Johnston Ridge Visitor Center (USDA facility) \$8/person	visitor center		2				
	1400 Hummocks Trail (2.3 mi loop)	lecture and field activity (instructor-led)				2.5		
	1730 Return to camp							
	1800 Dinner							
	1930 Lecture - ecological succession	lecture				1.25		
	42	drive to Olympic Peninsula						
630 breakfast, make lunch (bags to truck 615)								
assign geology readings on volcano and EQ hazards of PNW								
730 soil lecture and exercise in camp		lecture and instructor-led field activity				2.5		
1000 depart								
1200 Mima Mounds		instructor-led field activity	0.75			0.75		
1400 Squaxin Island Museum		guest lecture and guided tour						2
1600 depart								
Anth: Assign Makah video; Oldham Makah Whaling		video and class discussion in van						0.5
1800 arrive camp Kalaloch (Olympic NP)								
1830 dinner								
1930 lecture - tribal sovereignty and cultural preservation	lecture						1.25	
43	Olympic National Park, Makah Museum							
	630 breakfast, make lunch							

Jenny Lake shuttle (runs 7am – 7pm, \$15 roundtrip) - take shuttle to Cascade Canyon and hike to Inspiration Point and up Cascade Canyon (optional hike to Lake Solitude) NOTE: If arriving in time for
 700 7AM shuttle and paying CASH the rate is \$5/person. Jenny Lake Boating 307-734-9227 field activity
 Cascade Canyon hike from shuttle dock: 4.8mi one-way to Cascade Canyon fork; 7.5mi one-way to Lake Solitude. Round-trip to Lake Solitude from shuttle is 15 miles
 1500 last hikers should be in line to board return shuttle boat
 1600 rest of day off in Jackson (Drop off and park in lot at N Cache and Gill)
 1800 purchase dinner in Jackson (Pinky G's Pizza?)
 2000 return to camp

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54 Tetons to Dinosaur

600 Breakfast (bags to van at 0545); Make lunches
 700 leave camp
 730 Gas stop Hoback Junction
Assign video: Mass Extinction video and class discussion in vans
 Green River overlook stop at Warrenton Bridge campground and picnic area (lecture on wildlife migration
 900 and conservation efforts) lecture 0.25
Assign video: Planet Earth - Saving Species video and class discussion in vans 2
 1330 Gas stop Sinclair WY/UT state line
 1400 drive Sheep Creek Canyon loop (south of Manila, UT), stop at Uinta fault lecture 1
 1730 arrive camp
 1800 dinner
 1930 prepare for mapping exercise (review stratigraphy etc) 1.5

55 geologic mapping project

600 Breakfast, make lunches
 700 leave camp for map area
 730 begin mapping project (discuss cryptobiotic crusts - don't step on them!) lecture and field activity (instructor-led) 6
 1330 complete mapping
 1400 Visitor center and dino quarry exhibit visitor center and exhibit 1.5
 1600 return to camp
 1800 dinner
 1930 instruction for completing maps (due in AM) 0.75

56 Piceance Basin

615 Breakfast (600 bags to truck); make lunches
 715 Geology & Ecology lecture: the sixth extinction lecture 0.5
 815 Anthropology lecture: social inequality lecture 0.5
 930 brief stop petroglyphs lecture and field activity (instructor-led) 0.75
 1000 depart Dino NM
 stop in Piceance Basin to sample/discuss oil shale (Head S on Co Rd 5 at White River City junction)
 1100 (discuss conventional vs unconventional oil/gas) lecture and field activity (instructor-led) 1.5
 1300 gas stop Rifle
 1730 Arrive in Cherry Creek SP camground (Aurora, CO) - use East entrance on Parker Rd.
 1800 Dinner
 1900 Exam review 0.25

57 Exam 4, day off

700 Breakfast (645 bags to truck)
 800 Exam 1
 1200 rest of day off in Boulder (or Denver?) 1

58 Denver Museum

630 take Jenn and John to airport (about 1 hr roundtrip)
 730 Breakfast; make lunches
 830 leave camp for Denver
 900 arrive DMNS, paleo lab tour, public exhibits (including Prehistoric Journey) guided tour 2
 1430 depart for camp
 1500 van and gear cleanup
 1800 dinner

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59 MDT->CDT drive to Columbia, MO (720 mi, 11 hr est., lose 1 hr)

530 Breakfast (bags to van at 515); make lunches
 630 leave camp
 Good gas stop late afternoon exit 28 Kansas City MO at QT lots of bathrooms
 1830 arrive camp (Cottonwoods RV Park)
 From I-70. Take exit 128A in Columbia, MO. Turn left onto US Highway 63 North. Go North 4 Miles to the Oakland Gravel Road Exit. Turn Right at Stop Sign at top of ramp. Go 100 feet, then turn Left onto Oakland Gravel Road. Cottonwoods will be on your right hand side less than 1/2 a mile down Oakland Gravel Road.
 1900 eat dinner out (China Garden buffet), rest of night off

