Field Education Supplemental Support Request

For all requests related to field education support, please complete this form after submitting a regular UNAVCO Request Support: https://med.unavco.org/newproject/supportform.aspx This will ensure that both you and UNAVCO have all the information needed for a high quality student learning experience. Please know that UNAVCO is very committed to supporting field education but has limited resources to do so. Support is contingent on availability. Support beyond curricular assistance will often require some funding from the requester (ex. shipping).

* Required

1. Email *

Primary Contact Information

2. First Name *

3. Last Name *

4. Phone Number *

5. Email Address *

6. Affiliation *

7. Shipping address for equipment (if equipment is requested)

Course Information

8. Course name *

9. Course duration *

10. Anticipated dates of UNAVCO support *

11. Approximate number of students in course *

12. Course level *

Check all that apply.

- [ ] Graduate
- [ ] Upper-level majors
- [ ] Lower-level majors
- [ ] Introductory; non-majors

Other: [ ] _____

Request Details

Please indicate the geodetic method and type of support requested from UNAVCO. (NOTE: Support is contingent on availability. Support beyond curricular assistance will usually require at least some funding from the requester.)

13. Terrestrial laser scanning (TLS)

Check all that apply.

- [ ] Curriculum support (ex. consultation about exercise ideas)
- [ ] Instrumentation (ex. scanner)
- [ ] Field Engineering (if scanner is requested, then field engineer will most likely be needed too)

14. Structure from Motion (SfM)

Check all that apply.

- [ ] Curriculum support
- [ ] Instrumentation (ex. targets, pole, UAS)
- [ ] Field Engineering

15. Kinematic GPS

Check all that apply.

- [ ] Curriculum support
- [ ] Instrumentation (i.e. survey-grade GPS, typically a teaching set of Emlid ReachRS2)
- [ ] Field Engineering

16. Static (campaign) GPS

Check all that apply.

- [ ] Curriculum support

17. Other comments related to support request

18. What type of training or experience do you have with your requested method/s? *

GETSI Field Teaching Resources

Please review the existing GEodesy Tools for Societal Issues (GETSI) resources for teaching with geodetic field methods. Even if you do not plan to use these resources, reviewing the materials may help you consider the necessary pedagogical components. UNAVCO is the lead organization on the GETSI project.
-->Analyzing High Resolution Topography with TLS and SfM - https://serc.carleton.edu/getsi/teaching_materials/high-rez-topo/index.html
-->High Precision Positioning with Static and Kinematic GPS/GNSS - https://serc.carleton.edu/getsi/teaching_materials/high-precision/index.html

This webinar overviews the two geodesy field modules may also be helpful if you are not already familiar with the resources:
-->Integrating GPS, SfM, and TLS into Geoscience Field Courses - https://serc.carleton.edu/integrate/workshops/webinars/2017_2018/field_geodesy/index.html

19. Do you anticipate using these provided resources? *

Mark only one oval.

- YES
- NO OR UNSURE *Skip to question 23*

20. If yes, which if any units are you planning on using from "Analyzing High Resolution Topography with TLS and SfM"?

Check all that apply.

- [ ] Unit 1-TLS
- [ ] Unit 1-SfM
- [ ] Unit 2
- [ ] Unit 2.1
- [ ] Unit 3
- [ ] Unit 4
- [ ] Unit 5

21. Which if any units are you planning on using from "High Precision Positioning with Static and Kinematic GPS/GNSS"?

Check all that apply.

- [ ] Unit 1
- [ ] Unit 2
- [ ] Unit 2.1
- [ ] Unit 2.2
- [ ] Unit 3

22. If you plan to modify the GETSI resources, please summarize anticipated changes?

Learning Outcomes

What are the desired learning outcomes in your geodesy field teaching? i.e., what do you want the students to be able to know and do by the end of the geodesy field methods activities? If you plan to use the GETSI teaching resources fairly close to as-is, you can say "see GETSI units selected above". If you plan to do something significantly different, please give your learning goals here.

Resources on writing learning goals:
https://serc.carleton.edu/integrate/info_team_members/currdev/effective_materials/learning_goals.html

23. What are the desired learning outcomes? *

Assessment

How will student learning be assessed? How will you determine that the outcomes you defined above are achieved? Project write-up? Students apply knowledge to new field site? Exam? Again if you plan to use the GETSI resources pretty close to as-is, you can say "see GETSI units selected above".

Resources on designing assessments that match learning goals:
https://serc.carleton.edu/integrate/info_team_members/currdev/effective_materials/assessment.html

24. How will student learning be assessed? *

Student engagement

With geodetic many instruments, not all students can be involved in using/running the equipment at all times. The most successfully field education projects have secondary tasks for the students to work on while a subset of the class actually operates the equipment. Examples include:
1. Recording contextual information such as: taking detailed field notes, photographing the outcrop/field area, strike/drip measurements, and drafting a site map
2. Making calculations or prepare for subsequent surveys
3. Compiling a list of required equipment
4. Developing a standard operating procedures list
5. Starting working on components of the final write-up that can be completed early (e.g., project purpose, methods)

25. How will you manage student time when some of them are not actively engaged in running equipment? *

Logistics - 1

Please outline your anticipated schedule.

26. What topics and activities do you expect the students to be doing each of the days? *

Logistics - 2

At what site/s will the geodesy field education be conducted?

Considerations include:
1. Compact sites with limited vegetation are preferable
2. Close proximity (<1 mile) to road so equipment can be efficiently transported by the students and instructors
3. Interesting and relevant geoscience question. (E.g., stratigraphic analysis, fault scarp diffusion, fluvial terrace risers and cut banks, post-fire or hillslope erosion processes)

27. Describe the field site/s. *

Logistics - 3

Do you have the computing resources necessary to accomplish the desired learning outcomes?

If you are not sure, please describe the computing resources available. Considerations include:
1. Do you have a computer lab with appropriate software, or the ability to add software? For example, if you expect students to do significant data processing and analysis, GIS software and/or other method-specific processing software will be necessary.
2. If not, will a majority of your students have laptops onto which the necessary software can be installed?
3. What process will you use to distribute gigabytes of data to all the students (e.g., central server for file sharing, hard/thumb drives, students will have on their own devices)?

28. Describe your computing resources. *

Logistics - 4

If you plan to use a UAV (uncrewed aerial vehicle) as part of the instruction, what permissions are needed from your institution and intended field site? Have you secured permission yet? Do you have FAA Part 107 Certification (Small Unmanned Aircraft Systems)?

29. Describe UAV considerations with your institution and planned field site/s.

Logistics - 5

If you are requesting an equipment loan, you or someone else at your institution will need to assume responsibility for the equipment while it is in your possession. If someone else BESIDES YOU will be the one to sign this loan agreement, please provide their contact information here.

30. Name (if signer will be different than you - ex. department chair)

31. Email (if different than you)