

Arctic Geophysics Field Research Application Information

PHYS 324 – Geophysical Field Research Preparatory Seminar (1 credit hour), Fall 2023

and

PHYS 325 – Geophysical Field Research: Arctic Geophysics (4 credit hours), Spring 2024

PHYS 324

- 1 credit hour, meets weekly throughout 2023 fall semester. *Meetings will be on Saturdays due to students' varied schedules. Attendance required at all meetings.*
- Students create their own research project based on their interests. With close mentoring from Dr. Herman, students will design, make a proposal for, and start building a sensor-based project to address that research question.

PHYS 325

- 4 credit hours, meets for 5 Saturdays at the start of the 2024 spring semester to finish, test, and refine the research sensor projects.
- Students spend (or two) weeks in Utqiagvik, Alaska deploying their sensors on the sea ice. These weeks are either the week before, or the week of the 2024 spring break (Feb. 24-March 2, or March 2-March 9).
- After the trip, students work individually with Dr. Herman to analyze their data and prepare presentations for the mid-April 2024 Student Engagement Forum. This will form the bulk of the final write-up about their overall research experience.

This 2-class sequence (you must enroll in both) is designed to get students involved in a full research experience, whatever their background. This includes students whose primary ability is their motivation to learn even if they have **NO PRIOR TECHNICAL OR RESEARCH EXPERIENCE**. Each of you accepted into this program will be closely mentored as you design your own research project. This starts when you conceive of your research question, and continues through the construction and deployment of your own sensor to address that question.

Please create a document (MSWord or pdf) for your application for the year-long 2-class Arctic Geophysics program. Email this to Dr. Rhett Herman (rh Herman@radford.edu) by 5:00pm on **Friday, March 31, 2023**. Early submissions are encouraged but no late submissions will be accepted. You **must** name your document FirstnameLastname_PHYS325s25.docx (or .pdf). Have the following three numbered/highlighted sections in your document.

1. Contact Information

Name:

Radford email:

2. Preferred Week of Travel

Travel will be either the week before, or the week of the 2024 spring break. Indicate if you can travel either week, or if you have a preference for one of the two weeks. Nothing is guaranteed, but I work to match people with their preferences. The 2024 dates are February 24-March 2, or March 2-March 9 (Saturday to Saturday in Alaska).

There will be a limited number of spots for some to stay for 2 weeks. If you are interested in 2 weeks, indicate that in this application. Indicating interest does not guarantee acceptance for the 2-week positions.

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3. Essay

Explain why you are interested in this class. I know this is a very broad question – I would be happy to answer questions in person about this essay. This should be between 200-500 words, although this may be longer if you truly have more to say (without being repetitive). Note any experience you have working in groups. Teamwork is crucial since being part of a well-functioning and cooperating team is paramount.

Some items/questions to think about that may get you started:

- *I do **not** expect anyone in this program to have a career in geophysics or sea ice work. This class involves you in a research experience in an area that affects us all – the global planetary environment.*
- *What do you hope to get out of this experience that will benefit you professionally in the future?*
- *What do you hope to get out of this experience that will benefit you personally in the future?*
- *What will you do in this program that you can't do in your other classes?*
- *Why do you want to do research and not just take a "traditional" class?*
- *What types of creative-solution/problem-solving experiences have you previously had (in any context)?*
- *Is there some particular measurement or experiment that you would like to perform? Maybe you have wondered, "Why don't they try [this thing] in the arctic?"*
- *If you want to highlight your academic record so far, do so in a concise list (class, grade in that class, etc.). Note that this includes both college as well as high school classes that highlight your ability to bring something useful to this research project.*

Cost estimate

The estimated total cost for one week is **\$3,144**. This cost includes an estimate for your airfare (see below), plus all meals/lodging/fees/etc. while in Utqiagvik. The estimated total cost for 2 weeks is **\$5,440**.

*There will be scholarship opportunities available for this experience.
Please see Dr. Herman for more information about this.*

Other information

- **Plane ticket:** You will purchase **your own** plane ticket to/from Utqiagvik for simplicity and cost efficiency. Thus, the one-week estimate of \$3,144 could be lower if e.g. you have frequent flyer miles to use for your ticket, or you live near an airport with less expensive flights. You will leave from the airport that is most convenient/cost efficient for you.
 - You **must** give your itinerary to the McGlothlin Center for Global Education at least 45 days prior to departure.
- **Lodging:** We will stay in the Ukpik Nest scientists' dormitory on the grounds of the former Naval Arctic Research Laboratory (NARL). NARL is used as a base of operations for numerous scientific projects.
- **Cold-weather clothing:** I have a number of outfits from previous trips that current students may borrow. If I have one that fits you—either all or in part—then this will save you some \$\$\$. However, many people buy their own gloves due to personal preference.
- **Public relations:** There will be public relations activities that will be required of the group – we will be representing Radford University throughout the entire year-long research experience.
- **All Radford University policies will continue to be in effect for the entire duration of the research trip.**