



# WVU Fire and Ice: Lessons Learned from (Re-) Establishing a Study Abroad Program to Invigorate a Geology Program

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## Introduction

- College-level STEM classes often strive for a meaningful active learning component,
- Effort is usually constrained by budget, time, and faculty-enthusiasm levels
- West Virginia University's (WVU) Geology Program developed an overseas active learning course to southern Iceland in May 2018.



## Class Structure & Expectations

- Met once a week to cover topics we would see in the field
- Topics included: sub-glacial volcanism, subaqueous volcanism, glacial geomorphology, glaciology, etc.
- Students picked a topic related to what we would see in Iceland to write about for the field guide
- During the field trip, students would then present their topic in the field
- Students also picked a cultural topic for the field guide, e.g., Icelandic cuisine
- The weekly seminar helped students by introducing them to new topics they would see and actively study in the field
- Students were expected to complete weekly readings based on the lectures

**WVU GEOLOGY 493D  
AND 930 "GEOLOGY OF  
ICELAND: FIRE AND ICE"**

**MAY 8TH – MAY 14TH 2018**

**FIELDGUIDE BY GEOL493D STUDENTS:  
MEGAN BOHON, EMILY CHILCUTT, BRENN  
COLE, RYAN COX, RYAN CULP, AUTUM  
DOWNEY, HAYLEY GUYER, SHANNON  
MAYNARD, IAN NICHOLS, HOLLY PETTUS,  
AND ZACHARY WILLHOITE.**

**EDITED BY DR. GRAHAM ANDREWS**

**TRIP LED BY DR. GRAHAM ANDREWS AND  
DR. STEVE KITE**

## In Iceland

### Daily routine



Each morning, the group would gather to go over plans for the day, we prepared lunch in the field and group cooked every night for dinner

### Geo-Tourism

Highlights:

- Jökulsárlón glacial lagoon
- Guided hike on Skaftafellsjökull
- Basalt columns on Reynisfjara beach
- Mid-Atlantic Rift at Thingvellir



### Active Learning in the Field



- Volcanology, Stratigraphy, and structure of Miocene flood basalts

- Igneous petrology of the Austerhorn Pluton



- Brenna Cole talking about Eyjafjallajökull ('I forgot my yogurt')

- Dr. Steven Kite talking about glacial processes on Skaftafellsjökull glacier



## Pros and Cons

### Pros

- Students felt more prepared for future field work
- Students were exposed to group living and cooking, Icelandic culture, and working in a geological setting very different from West Virginia
- Students were able to interact with faculty and alumni more than usual

### Cons

- Expensive – even with subsidy it was \$1,200 plus flights
- Little had time to fund-raise or save up
- Departed immediately after exams and returned immediately before fieldcamp (no time to recover)
- Had to be planned from scratch – no pre-existing structure to build-on - very different from other WVU study abroads
- Needed tailored student registration & fee structure
- Liability issues over driving had to be discussed

### Improvements/Changes

- Adding to regular class schedule so students have time to plan and save/fundraise
- Shortening the first field day - many people were jet-lagged and found it hard to focus at the end of the day

## Acknowledgements

Thanks to Dr. Steven Kite and the Study Abroad office for helping to create, organize, and lead the field trip, thanks to everyone who participated in the continuing education portion of the class, and thanks to all who contributed to the Geology Experience fund. Without them, the trip would not have been possible. Photographs were taken by field trip participants.

### Find us on Twitter!

**Holly Pettus - @holly2014**

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**WVU Geology - @WVUGeology**

**Graham Andrews' website - <http://graham-andrews-geologist.squarespace.com>**