Biol 399 - International Field Studies
The Biology of Icelandic Fishes
Hólar University College, Iceland, June 2014

Syllabus

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Course Objectives: This course is designed to provide biology undergraduates and graduate students a broad understanding of the fishes of Iceland. We will examine the ecology, morphology, behavior, physiology, and cell biology of Icelandic fishes particularly as these relate to, and are molded by, the unique environment of Iceland. Students will develop an understanding of how these organisms have evolved and what specialized adaptations allow them to thrive. Students will develop and refine their skills of scientific observation, maintain a Field/Laboratory Notebook and Journal, collect, analyze and interpret field and laboratory data, and in general participate in science as a way of understanding the natural world. In addition to science, the course will include

large measures of language, culture, art, history, and a general appreciation for Iceland and Icelanders.

Textbook: None. All readings will come from the primary and secondary literature.

Prerequisites: There are currently no prerequisites for this course other than good standing at your university. It is hoped that all students will have an enthusiastic attitude and desire to learn about the fishes of Iceland.

Field/Laboratory Notebook and Journal: All students will be required to maintain a field notebook and to keep a Journal. A field notebook is used by field biologists to take notes while in the field. A laboratory notebook serves exactly the same purpose for scientists working in a laboratory. Since you will be participating in both of these activities your notebook will be a "hybrid" Field/Laboratory notebook. The goal is simply to create a semi-permanent record of your activities, observations, methods, results, and other similar observations. Everything you do should be recorded; every single piece of information related to what you are doing should be noted. Measurements, sketches, general notes, weather conditions, geographic locations, water temperature, times, observations of museum collections and any and all available data/information should be recorded. Keep in mind that what may seem trivial at the moment may be of vital importance upon later analysis. Neatness is not a priority. The main priorities are accuracy and completeness.

Your Journal will consist of your Field/Lab Notebook together with your daily account, description, explanation, clarification, comments and interpretations of the day's events. Journal entries are most often made at the end of the day when you are winding down and relaxing in the evening (but not always, it depends on your preference). Each day's Journal entry can be one brief paragraph or several pages of text. The length of each day's entry is not important. What is important is that that you and others should be able to "relive" every day of your trip while reading your Journal at some future date.

There are many sources of appropriate notebooks for this purpose. Visit the bookstore and on-line sources to find a notebook that you believe will suit your needs. Waterproof versions (with pages made of a paper-like plastic) are available on line and worth considering.

The Field/Laboratory Notebook and Journal (or photocopies of them) are due one week after we return from Iceland.

Alcohol Policy: The legal drinking age in Iceland is 20. If you are 20 or over, mature and responsible drinking will be tolerated. Mature and responsible means exactly that. Drunkenness and drinking games cannot be tolerated. Please remember that for every single moment of this trip you are an Ambassador representing the United States of America in Iceland and that we are guests in Iceland. Please behave accordingly.

Grading: Your grade for the course will be based on the following:

Field/Laboratory Notebook and Journal	60%
Participation / Attitude	20%
Capability as a US Ambassador to Iceland	20%

Course Agenda

Travel to and from Iceland

Meet at Baltimore/Washington Internatioanl Thurgood Marshall airport. (Arrangements for 2015 course are being made now).

Course Itinerary

Fri	June	6	Fly to Keflavik International Airport (KEF), Iceland.
Sat		7	Arrive in Reykjavik. Recover, relax and explore the northernmost capital city.
Sun		8	Meet Avis representative at 9:00 AM at Guesthouse 101. Pick up vehicles and do the famous Golden Circle Tour. Visit Þingvallavatn, Þingvellir, Geysir and Gullfoss. Reading assignment. (Reading assignments will be given the day before they will be discussed.)
Mon		9	Move to Hólar. On the way, drive around Hvalfjörður, visit Deildartunguhver, Hraunfoss, Blönduós, and other sites on the way to Hólar. Arrive in Hólar in time for dinner.
Tue		10	0900 – 1200. Dr. Helgi Thorarensen. Physiology of Arctic Fishes. 1300 – 1400. Paper discussion. 1410 – 1900. Bird watching near Kolkuós.
Wed		11	0900 – 1700. Trip around Skagafjörður - freshwater. - Dr. Stefán Óli Steingrímsson.
Thr		12	0900 – 1200. Dr. Skúli Skúlason. Iceland: Theater of Evolution. 1300 – 1400. Paper discussion. 1410 – 1700. Lab work – physiology and ecology.
Fri		13	0900 – 1200. Dr. Bjarni K. Kristjánsson. Ecology of Icelandic Freshwater Fishes. 1300 – 1400. Paper discussion. 1410 – 1700. Lab work – physiology and ecology.

Sat	14	0900 – 1200. Dr. Bjarni K. Kristjánsson. Fine Scale Diversity and Processes in Evolution of Icelandic Fishes. 1300 – 1400. Paper discussion. 1410 – 1700. Fish morphometric analysis.
Sun	15	Free day. Hiking, relaxing, and visiting local sites of interest including the Icelandic Emigration Center at Hofsós, the Skagafjörður Folk Museum at Glaumbær and other activities.
Mon	16	0900 – 1200. Dr. Eugene Williams. Cellular and Molecular Mechanisms of Temperature Acclimation and Adaptation in Arctic fishes I. 1300 – 1400. Paper discussion. 1410 – 1700. Allometry in biology.
Tue	17	This is Independence Day in Iceland. (There will be a parade in Sauðárkrókur.)
Wed	18	0900 – 1200. Dr. Eugene Williams. Cellular and Molecular Mechanisms of Temperature Acclimation and Adaptation in Icelandic and Arctic fishes II. 1300 – 1400. Paper discussion. 1410 – 1700. Lab work – physiology and ecology.
Thr	19	0900 – 1200. Statistics using R. 1410 – 1700. Group discussions, talks and final reports.
Fri	20	Move to Reykjavik.
Sat	21	Explore Reykjavik.
Sun	22	Explore Reykjavik.
Mon	23	Meet with Iceland Fulbright Commission Executive Director Belinda Theriault. Return cars to airport, return to BWI.