

Teaching Field Biology Courses Abroad

Judy Guinan¹, Kathleen Nolan² and Ruth E. Beattie³

¹Biology Department

Radford University

PO Box 6931, Radford, Virginia 24141

²Biology and Health Promotion Department

St. Francis College, Brooklyn, New York

³Department of Biology

101 Morgan Building

University of Kentucky, Lexington, Kentucky 40406

¹jaguinan@radford.edu; ²knolan@stfranciscollege.edu; ³rebeat1@email.uky.edu

Introduction

The three of us have taken students to Belize, Panama, Honduras, and Australia to snorkel on coral reefs and explore terrestrial forests. Although these courses may require a significant time commitment on the part of the faculty, as well as a financial one on the part of the students, we all feel that the benefits reaped by students and faculty alike make the investment well worthwhile. The benefits for students include opportunities to learn about and experience first-hand new habitats filled with unique flora and fauna, to form closer student-mentor relationships with faculty, to interact with people from other cultures and make friends from other countries, to expand their world-view, and to improve their employment opportunities. We believe these experiences can be life-changing for students, and can serve to build their confidence in themselves and their abilities, while learning discipline-specific concepts in a living laboratory. Faculty also benefit in these ways and by having the opportunity to get to know their students to a far greater degree than is possible in a classroom setting.

Here we will discuss different approaches to leading short-term study abroad courses, with which we have some experience, and briefly outline some of the logistical considerations for planning a successful course.

Approaches to Short-Term Field Courses Abroad

We have all taken different approaches to leading study abroad courses. These include: 1. working with an independent education facility that caters solely to students (Belize Marine Tropical Research Education Center), 2. operating with an institute of marine science that is part of a resort (the Roatan Institute of Marine Science at the Anthony's Key Resort in Honduras), 3. collaborating with a scientific research organization that accepts visiting professors and their students at their facilities, such as the Smithsonian Tropical Research Institute (STRI) in Panama and 4. partnering with a consortium in which one may take students with you from your home campus and from other colleges (Cooperative Center for Study Abroad (CCSA) in Australia). Each approach has the benefit of providing students with comfortable, secure accommodations, while providing instructors with assistance making logistical arrangements such as transportation, meals, guides, etc. The first three options require that the faculty members in charge of the course recruit all of the participating students themselves, while the fourth option, partnering with a consortium, lessens the recruitment efforts to some degree, since students from

other institutions can participate as well. The drawback to this option is that faculty will not necessarily know all of the students participating in the course prior to leaving the country, nor will all students have the chance to meet one another, since pre-departure meetings between faculty and all students are not possible. Students, are, however, carefully screened by the consortium, prior to selection in the course.

With all of these options, the faculty has complete control over the curricula. Some of the field experiences we have included in our courses are guided hikes in rain, cloud, and eucalyptus forests (Fig. 1), snorkeling around mangroves and coral reefs (Fig 2.), experimental field studies, and visiting research centers, zoos (Fig 3.), aquaria, botanical gardens, museums and national parks. In cases where the courses are accommodated at research institutions, there is also the option to include talks and informal conversations with visiting researchers who can describe their work to students, sometimes right in the field. Since some of these researchers may be graduate students, students get to hear about research projects being conducted by someone who may only be a few years older than themselves. In our experience, students respond very positively to these interactions, and some of these have been among their most lasting impressions of the course.



Figure 1. Students hiking in the rainforest on Barro Colorado Island, Panama.



Figure 2. Student snorkeling on a coral reef in Belize.



Figure 3. Student visiting a zoo in Australia

Field experiences are supplemented with lecture material, readings, group discussions, student presentations and/or written assignments such as book reports, essays, species accounts, and personal journals. Some faculty choose to begin covering the course material prior to leaving the country, by holding pre-departure meetings, so that students are already familiar with the types of ecosystems and species that they will be encountering. These pre-departure meetings also provide the chance to discuss logistics with the students (packing, currency, and cultural background, etc.), as well as giving the students the opportunity to get to know their professor(s) and the other students a bit better prior to departure. In at least one of our courses, a pre-departure exam is also administered. Regardless of the types of assignments given, it is important to set interim deadlines for work to be submitted, especially for assignments to be completed while abroad. Once students are in the field and experiencing a new locale and culture, it is easy for them to lose sight of the fact that they have written assignments to complete as well. Setting interim deadlines will prevent them from having a backlog of assignments due all at once at the end of the course.

Some facilities will also provide access to classrooms, laboratories, equipment, and computers (Fig. 4). It is important to determine what your requirements will be and ascertain the availability of these things when selecting your host organization.



Figure 4. Classroom facility at Smithsonian Tropical Research Institution in Gamboa, Panama.

Logistical and Planning Considerations

Logistics

Before offering a study abroad course, faculty should consider several important issues. One of the first things to determine is the size of the group that you are willing and able to accommodate. In most cases, the more students that you include, the less expensive the cost to the students, since some of the costs (e.g., chartered buses, guides, certain fees, instructor costs) are shared by the group. However, large groups can be problematic, particularly in the field. If you are doing experimental field studies, it may be difficult for instructors to supervise the work of many small groups of students. When snorkeling, it can be difficult to keep an adequate eye on large groups, and when hiking, students at the end of a large group on the trail will likely have difficulty hearing the guide, and may miss many of the interesting animals that those in the front get to see. Naturally, it is important to also keep in mind any limits imposed by your host accommodations. You should also give careful consideration to how many instructors should be included in the course. Adding additional instructors can be costly, however, we are all of the opinion that it is better to have more than one instructor if at all possible. That way, if an instructor becomes ill (a not uncommon occurrence), or if the group must separate because of injury or illness of one of the students, there is a responsible party still available to supervise. Including other instructors in the course also allows each to have some occasional “down-time”, an important benefit when you are traveling and living with students “24/7”.

Pre-screening your student participants is another critical requirement. Your institution should be willing to provide you with academic and conduct records of applicants, so that you can be sure that the applicants meet academic standards and that no one with serious behavior issues is unknowingly included in the course. Beyond institutional records (and since conduct records are not always available), it is important to interview each applicant individually to determine their motivation for desiring a study abroad experience and to make sure that they are prepared to deal with a rigorous schedule and academic requirements, as well as travel and immersion in another culture. It is also important to identify potential personality conflicts within the mix of student applicants ahead of time. If your institution has a standardized application for study abroad, you might consider supplementing it with your own application, aimed at capturing information about student experiences and interests. This

will provide you with a means of determining student preparedness for rigorous physical exercise, living in close quarters with others, and tolerance for discomfort, heat, insects, etc. For example, if the course includes extensive snorkeling, it is important to ascertain that everyone is able to swim, or will at least feel comfortable in the water if they are wearing a safety vest. Some of us also require that students provide references from other professors who have taught or mentored the student.

As part of the screening process and pre-departure planning, students should be furnished with information about expectations for the course. Some students may be under the impression that study abroad courses are “an easy A” and lack the rigor of on-campus classes. We make sure to impress upon them that they will be working under a heavy and compressed schedule, and that their work will be held to the same high standards as any other course in our department. This can be reinforced by supplying them with a detailed schedule and a syllabus showing all activities, including lectures, field work, evening discussion sessions, etc., so that they understand that much of the time they spend abroad will be spent on course-related activities, including study. The message can be further reinforced by explaining to them how their work will be assessed and the basis by which grades will be earned.

Students should also be provided with information about the country and the culture they will be experiencing before they embark. It is essential that they be prepared for living in another culture and are fully cognizant of any language differences. The students should be prepared to deal with the fact that they are not likely to be understood by people in the host country if English is not the native language, and the students do not speak the host language. Some students are surprised to learn that not everyone speaks or understands some English. You might supply them with a list of useful phrases in the host language, and/or encourage them to invest in a phrase book or dictionary.

Other useful information to include in pre-departure meetings and/or course materials are details regarding travel arrangements, passport, visa, and tourist card requirements for the host country, contact information for the host accommodations, information about computer/email access, cell and land-line phone accessibility, and recommended or required immunizations, medications, etc. You should also consider supplying them with a detailed packing list, as well as a number and weight limit for suitcases, and carry-on luggage. Establishing a website with this type of information can be very helpful, as you can also include links to the US State Department, the CDC, the host institution, etc.

You need to be sure that you are aware of any special accommodations that the students may require in terms of diet, accessibility, or disability, and to plan in advance how you can best meet those needs. It can be very helpful to work closely with your institution’s Disability Resource Office, and to be sure that you understand what resources your institution may have available to help you and students with disabilities plan for participation in the course.

Planning

Study abroad courses require extensive planning time, especially the first time they are offered. We strongly suggest that you visit the host facility before taking students abroad, if at all possible. That way, you can see first-hand what accommodations will be provided, and can anticipate any planning or logistical challenges with which you will need to contend. We would advise that you begin planning your course at least 12 – 18 months before you embark for the first time. That being said, no plan will ever be perfect, nor will you be able to anticipate every difficulty. Some flexibility on your part (and on

the part of your students) will likely be required as unexpected situations arise. These may be as simple as variable weather conditions, to sickness or injury of an instructor or a student. You should give considerable thought in advance to potential health and safety issues, so that you are prepared to deal with them, should they arise. For example, you may wish to establish (or your institution may already have) a policy on health insurance for students traveling abroad. There are companies that offer additional insurance for medical treatment and emergency travel back to the United States in the event that a student might need it. These plans can be very inexpensive and may make dealing with an injury or illness far less stressful for the instructor, the student, and their family. Your host institution should also be able to furnish you with information about area doctors and hospitals, and can be an immense help should an emergency arise. Ask them in advance for emergency (off-hour) contact information for someone who can help you make arrangements should an emergency occur. This is especially important if you are traveling to a country where English is not the native language. Providing the students with some safety information prior to departure can lessen the likelihood that they will suffer an injury or illness abroad. Be sure that they understand any restrictions on food and drink, and know how to avoid potential hazards on the trail (e.g., do not sit on logs without checking first for snakes, stinging insects, etc.). You should also consider establishing policies for students venturing out on their own time. Setting a minimum group size or a buddy-system is a good policy, so that no one is ever out alone. We would also suggest that you furnish your students with an emergency cell phone number where you can be reached in case of emergency.

Even with screening, it is possible that you will have to deal with behavior issues while abroad with your students. Be sure to establish firm rules for what is and is not allowable behavior, and discuss with the students the repercussions they will face if they violate those rules. It is a good idea to determine in advance what your institution's policies are concerning conduct issues abroad, and to be sure that your students know them as well. Take the contact information for your Dean of Students, or other responsible office with you, so that you can talk with someone at your institution about a conduct problem should the need arise. Many behavior issues involve alcohol abuse, so be sure you and your students know the minimum drinking age in the host country, and your institution's policy on alcohol consumption abroad. You can also set a more restrictive policy for your course, if you desire, and have your students sign an agreement regarding appropriate behavior before you accept them into the course.

Costs

The cost of short-term study abroad courses vary considerably and will, of course, depend on the host destination, and the length of the stay. The cost of the courses that we have offered are given below as examples (Table 1).

Table 1. Costs of some short-term study abroad courses (all costs include round-trip airfare).

<i>Institution</i>	<i>Destination</i>	<i>Length</i>	<i>Cost</i>
St. Francis College	Belize: Marine Tropical Research Education Center	7 days	\$1,350 + tuition
St. Francis College	Honduras: RIMS/Anthony's Key Resort	8 days	\$1,650 + tuition
Radford University	Panama: Smithsonian Tropical Research Institute	16 days	\$3,200 + tuition
University of Kentucky	Australia: Cooperative Center for Study Abroad	14 days	\$5,395 + tuition

When discussing cost information with students, be sure to make clear to them what is included in those costs (e.g., all lodging, meals and transportation, etc.). Also include an estimate for any costs that are not included (e.g., tuition, books, spending money, laundry, taxi/bus fares for non-course travel, passports, etc.), so that students and their parents can plan for those additional expenses. It is important that they understand that these are just estimates and may change as a result of increases or decreases in air travel, exchange rates, etc. Students should also be told of the due dates and amounts of each deposit, and the policy for refunds established by your institution, should the student withdraw from the course prior to travel. Some colleges will provide financial aid in the form of small grants or student loans.

Promotion and Recruitment

Recruitment for study abroad courses requires significant time and effort. It is important to plan early for how you will promote your course. Determine far in advance what help you can expect from your institution in this regard. In some cases, institutions may schedule fairs and other events where you might establish a booth to promote your course directly. Try to solicit the help of other students who have study abroad experience, if at all possible, especially those who have gone abroad with you already, or have studied in your host country. Students are more likely to respond to the comments of other students than to those of the program instructor. Plan to hold informational sessions for students who may be interested in finding out more about your course before committing. Establish a webpage for your course, and include your contact information, as well as the dates, times and locations of any information sessions you have scheduled. Prepare an attractive flyer (pictures are essential!) advertising your course, which you can distribute at events and post on bulletin boards. Also, talk to other professors and solicit their help in getting the word out. Some may be willing to let you spend a few minutes of their class time promoting your course.

Paperwork

The required paperwork for study abroad will differ between institutions, but we would recommend that you require and carry with you all of the following:

- Health information form – a form listing any special medical issues, medications, doctor contact information, and health insurance policy number.
- Waiver of responsibility form – a statement of agreement signed by the student and parents, freeing you and the institution from liability. This is best prepared by legal counsel, and it is very possible that your institution already has a form like this.
- Rules of behavior contract – this statement outlines your expectations of student behavior, including any rules you have established for your course (e.g., alcohol policy, minimum group size for non course-related excursions, policies for punctuality and attendance, etc.), and should be signed by the student and their parents.
- Emergency contact information – this should include names, addresses, and phone numbers for parents and guardians.
- Copies of student passports – keep these with you in case someone’s passport is lost or stolen. Also take a copy of your own!
- Copies of travelers’ insurance policies – if you require your students to buy an additional travelers’ policy, ask them to furnish you with a copy of their card to take with you.
- Equipment checklist – if you are taking any university equipment with you, this will help you prepare for packing, as well as to remind you what you need to bring back.

It is also a good idea to leave a copy of the paperwork with your chair or international program office in the event that it gets lost or stolen while you're abroad.

Conclusion

Short-term study abroad courses require far more additional time and planning compared to on-campus courses. They also involve major responsibilities. It is essential to begin planning early, to thoroughly investigate your host destination early in the planning stage, to determine what support your institution can offer program instructors in terms of planning and recruitment, as well as what policies have been established for study abroad. Careful selection of student participants can save you the frustration of having to deal with behavior problems while abroad and make the experience that much more enjoyable for everyone. It is critical to make clear to your students from the initial interviews what your expectations are in terms of academic performance, as well as behavior. Far from being the "free vacation" that some people envision, short-term study abroad requires a great deal of extra effort on the part of the instructor. That being said, it also provides many special benefits to students and instructors alike. Having the chance to foster a closer bond between the participants, to learn to appreciate a different country and its people, and to experience the wonderful diversity of the natural world first hand, is a unique and unforgettable experience for all concerned. Done well, it can be the best educational experience you and your students will ever have!

About the Authors

Judy Guinan received her Ph.D. in Ecology from the University of Georgia in 2000. She was awarded UGA's Excellence in Teaching award in 1999. She is an Associate Professor of Biology and has taught introductory biology, conservation biology, ecology, evolution, and animal behavior. Her research interests include the effects of habitat variation on the reproductive success and behavior of birds.

Kathy Nolan received her Masters degree in Biology from the City College of New York and her Ph.D. from the City University of New York. She is a Professor of Biology and teaches General Biology, Ecology, Evolution, and Genetics. She is very interested in fisheries biology and lab education.

Ruth E. Beattie is an Associate Professor and Director of Undergraduate Studies at the University of Kentucky. In 1987 she graduated from Queen's University Belfast, N. Ireland, with a Ph.D. in biochemistry. She completed two postdoctoral fellowships at the Hipple Cancer Research Center and at Wright State University in Dayton, Ohio. She then taught for four years at Ball State University, Muncie Indiana. In Fall of 1995 she joined the faculty of the University of Kentucky as an instructional specialist, where her primary responsibility is teaching large enrollment freshman level biology and microbiology classes. Dr Beattie is the recipient of a University of Kentucky's Chancellor's Award for Outstanding Teaching, has been named a Top Ten Teacher in the College of Arts and Sciences, and was awarded the Ken Freedman Award for Outstanding Faculty Advisor.