



Course Approval Form

For approval of new courses and deletions or modifications to an existing course.

registrar.gmu.edu/facultystaff/curriculum

Action Requested:

Create new course Inactivate existing course

Modify existing course (check all that apply)

Title Credits Repeat Status Grade Type

Prereq/coreq Schedule Type Restrictions

Other: _____

Course Level:

Undergraduate

Graduate

College/School: Department:

Submitted by: Ext: Email:

Subject Code: Number: Effective Term: Fall Spring Summer

(Do not list multiple codes or numbers. Each course proposal must have a separate form.) Year

Title: Current Banner (30 characters max including spaces)

New

Credits: (check one) Fixed Variable or to

Repeat Status: (check one) Not Repeatable (NR) Repeatable within degree (RD) Repeatable within term (RT)

Maximum credits allowed:

Grade Mode: (check one) Regular (A, B, C, etc.) Satisfactory/No Credit Special (A, B, C, etc. +IP)

Schedule Type: (check one) Lecture (LEC) Lab (LAB) Recitation (RCT) Internship (INT)

Independent Study (IND) Seminar (SEM) Studio (STU)

Prerequisite(s):

Corequisite(s):

Instructional Mode: 100% face-to-face Hybrid: ≤ 50% electronically delivered 100% electronically delivered

Restrictions Enforced by System: Major, College, Degree, Program, etc. Include Code.

Are there equivalent course(s)? Yes No

If yes, please list

Catalog Copy for NEW Courses Only (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense)	Notes (List additional information for the course)
Directed field studies emphasizing ecology and behavior. Topics vary but include sign of field manipulations, data collection and analysis, and introduction to organisms of study site.	Students bear cost of required field trips. May be repeated with permission of Environmental Science & Policy department. Total limit of 4 credits. This course does not satisfy requirements of the BA degree or BS degree, which state that students must complete at least one (BA degree) or two (BS degree) upper level division courses that include a laboratory.
Indicate number of contact hours: Hours of Lecture or Seminar per week: <input type="text" value="0-3"/> Hours of Lab or Studio: <input type="text" value="3-9"/>	
When Offered: (check all that apply) <input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/> Summer <input type="checkbox"/> Spring	

Approval Signatures

Department Approval	Date	College/School Approval	Date
If this course includes subject matter currently dealt with by any other units, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.			
Unit Name	Unit Approval Name	Unit Approver's Signature	Date

For Graduate Courses Only

Graduate Council Member _____ Provost Office _____ Graduate Council Approval Date _____

EXAMPLE COURSE SYLLABUS

In the past, field studies taken by BS in Environmental Science students were taken under the EVPP 490 course, "Selected Topics in Environmental Science and Policy," so they could earn credit towards their degree in this department. However, they were limited to a maximum of 4 credits in this course, so if they went on a study abroad trip they would not be able to take other courses that would count as EVPP 490. Having this new EVPP 440 course will eliminate the need to approve course substitutions and reduce administrative paperwork.

EVPP 440, like its predecessor, BIOL 440 (and may be co-taught with it), offers students a variety of opportunities to participate in field research. These may include developing and implementing on-campus or local area research under the direction of a faculty member or an affiliate faculty supervisor, including collecting data and analyzing it, or taking one of the many travel study abroad/field courses offered through the Center for Global Education or other GMU entity.

Thus, each course offering will develop its own unique syllabus addressing what will be covered, how participation will be graded, readings to be complete, research paper to be prepared, and other assignments and assessments (e.g., final exam) that the instructor requires for students to earn their grade.

Attached are examples of course syllabi from "Amazon and Galapagos: Ecological and Environmental Studies" offered in 2010 and the upcoming "Belize Ridges to Reefs Course" to be offered in 2014.

Amazon and Galapagos: Ecological and Environmental Studies

BIOL 440 / 508

EVPP 490 / 505

NCLC 395 / GEOG 333

3.0 Credits

December 10 - January 14, 2010

In this 2-week, 3-credit course, you will experience and explore the natural and cultural highlights of the Amazon Rainforest and Galapagos Islands. You will experience the diverse ecosystems of each of these areas including the world famous biodiversity of the Amazon and of course the Galapagos Archipelago, where on the voyage of the Beagle, Darwin developed key ideas that led to his theory of evolution. In addition you will visit areas of cultural significance in and around the capital city of Quito, and the Bellavista equatorial cloud forest. You will be joined by scientists, naturalists, and local experts that will guide our exploration and will provide information on biodiversity, ecology, culture, evolution and various environmental issues.

Participants will engage in a variety of activities including hiking, snorkeling, and swimming, which require a *moderate to high degree of physical fitness* – participants should be physically able and prepared to hike for distances of over five miles in high temperatures and humidity, in challenging terrains. Part of the trip will be at altitudes above 10,000 ft. Overnight accommodations will include rooms in hotels, field station cabins and also camping outdoors. Students will stay in double or triple occupancy accommodation.

The program is open to George Mason University and non-Mason students of all levels, staff, faculty, and alumni, as well as the general public. To obtain credit, you need at least a 2.25 GPA.

A passport that is valid for more than 6 months is required to travel to Ecuador. If you are not a U.S. citizen it is your responsibility to check requirements to travel to Ecuador. More information can be found at <http://www.ecuador.us/info/embassy.htm>

Faculty:

Dr Chris Parsons (Department of Environmental Science & Policy & Mason center for Conservation Studies, George Mason University)

DATE	LOCATION	DESCRIPTION
Dec 30	Depart US for Quito, Ecuador	Upon evening arrival into Quito's Mariscal Sucre International Airport, you will be met by the tour guide and transferred to the hostel.
Dec 31	Quito	Surrounded by forested mountains and volcanoes at 9,350 feet above sea level, Quito is the second highest capital city in Latin America, and despite the fact that it's only 15 miles south of the equator, Quito's elevation gives it a cool spring-like climate. After breakfast, you will be met by your guide and vehicle and proceed on a tour of colonial Quito. There will be an afternoon lecture by a local biologist about ongoing research at the Tiputini Research Station. You will then receive a tour of New Year's celebrations in Quito.
Jan 1	Tiputini Research Station, Amazon rainforest	After an early breakfast, you will go to the national airport in time for your morning flight to the Oriente, the Amazon Basin of Ecuador. Upon arrival into the city of Coca, you will transfer to the port and board a motorized canoe for your journey downstream to the Tiputini Biodiversity Station (the journey requires a canoe transfer, an open aired bus transfer, then a second canoe transfer). Please note that the rainforest is called that for a reason, so you should ensure that your luggage is waterproof and easily transportable (it will have to be carried up stairs and down steep paths). The Station is located among the most pristine Amazon Rainforest within the Yasuni National Park, an important UNESCO Biosphere Reserve and the largest tract of tropical rain forest in Ecuador. Upon arrival you will receive an orientation, then dinner. This will be followed by a nocturnal walk or canoe excursion.
Jan 2	Tiputini Research Station, Amazon rainforest	In the morning we will be divided up into small groups, and lead on a hike through the rainforest. This will include climbing a 150-foot observation tower to search for wildlife in the forest's canopy layer. After lunch, there will be a second hike along the Matapalo trail. An evening lecture will be held on research using motion-sensitive cameras, to photograph jaguars and other nocturnal animals in the forest.
Jan 3	Tiputini Research Station, Amazon rainforest	An early start and breakfast before embarking on a morning hike to view wildlife on the Pahuaco trail. The trip includes a visit to the canopy walkway before returning to the lodge for lunch. For the afternoon there will be a canoe trip to the "aguas negras". An evening lecture will be held on the affects of oil extraction on the rainforest's natural habitat and native communities, and controversy surrounding the issue.
Jan 4	Amazon rainforest / Quito	After an early breakfast, we will pack our belongings and embark in the canoes and return upstream to Coca, then fly back to Quito. In the evening there will be optional salsa classes this evening lead by a local tropical dance teacher.
Jan 5	Quito / Imbabura	After an early breakfast, you depart for a 90-minute drive to the Bellavista Cloud Forest Reserve. Cloud forests, correctly termed pre-montane/subtropical rain forests, cloak the steep slopes of the Andes from about 2,950 to 8,202 feet above sea level. Bellavista is at the southern edge of the Choco/Andean hotspots of biodiversity, which stretches from southwestern Colombia to northwestern Ecuador, and is home to over 300 different species of tropical birds and numerous other animals. Equally important, Bellavista is part of the Mindo Area of International Importance for Birds, the first area so designated in South America, by Birdlife International in 1997. You will take a guided hike through Bellavista's network of trails. The forest here is markedly different to the rainforest in the Amazon allowing a contrast between the two ecosystems.
Jan 6	Imbabura	There will be another early morning wakeup for a bird watching hike and a walk to one of the reserve's waterfalls. after lunch, you will visit the Middle of the World monument, zero degrees latitude, where you can straddle the equator putting one foot in each hemisphere, and conduct experiments on the coriolis effect. There will be an evening briefing on the Galapagos segment of the trip after dinner, followed by packing in preparation for the plane flight the following day.

Jan 7	Quito / San Cristóbal, Galapagos	In the morning we be transferred to the airport for the flight to San Cristóbal Island, the easternmost island in the Galápagos, and one of the older of the Galapagos islands. This island is also where Charles Darwin first went ashore in September 1835. Upon arrival, we will be met by our Galápagos Naturalist Guide and have an introductory lunch. After briefing on kayak safety, we will take a wildlife watching trip via 16-foot, sit-on-top sea kayaks to Las Tijeretas Bay. Later in the afternoon we transfer to a private campsite located in the highlands of San Cristóbal, where we will have a bar-b-q, and camp out in tents.
Jan 8	San Cristóbal, Galapagos	After breakfast, we will assist conservation efforts by planting endemic and native plants and trees in a Native Plant Garden. Species to be planted include: Alternanthera, Walteria, Palo Negro, Lecocarpus, Muyuyo, Algodoncillo, Cafetillo, Romerillo, Senna, Opuntia, Calandrin, Galapagosa, Scalesia, Palo Santo, Guayabillo, Chala, Matazarno, and Uña de Gato. Literature about these endemic species and the importance of the reforestation efforts will be provided to GMU participants. Later in the morning we will investigate the marine environment, boarding a small motorboat for a day of snorkeling, along the northwest coast of San Cristóbal Island. The first stop is Lobos Island for a chance to observe sea lions and various tropical fish species. After a packed lunch, we continue on to Kicker Rock (known in Spanish as Leon Dormido), to observe seabirds and snorkel to look for Galápagos sharks and other marine species. Late afternoon we arrive at Puerto Baquerizo Moreno, the provincial capital of the Galápagos Islands. We will travel back to our campsite in the highlands and receive a briefing about the activities of the following day.
Jan 9	San Cristóbal Island / Floreana Island/ Isabela Island, Galapagos	After an early breakfast, we board a small boat for Floreana Island (approximately 2.5 hours travel), the first island to see a permanent settlement of Ecuadorians in 1832. Floreana has an interesting human history with visitors including pirates, prisoners, and whalers. Before our arrival at Floreana, we will snorkel at Champion's Bay. We disembark at Puerto Velasco Ibarra and transfer a few kilometers inland to the humid zone, for more wildlife watching. After lunch more snorkeling Playa Negra, before boarding the boat and continuing northwest to Isabela Island (approximately 2 hours), the largest island in the Galápagos Archipelago and perhaps the most biologically and geologically diverse. Here we will have our first hotel stay in the Galapagos at Puerto Villamil and we will have an evening briefing.
Jan 10	Isabela Island Galápagos	Early rise and breakfast. Morning transfer to the highlands of Isabela where we will make an energetic hike up the flanks of Sierra Negra Volcano, one of Ecuador's most active volcanos, which last erupted on October 22, 2006. At the crater rim, located at an elevation of nearly 4,890 feet above sea level, we will view the 30 square mile caldera. Here we will have a picnic lunch before descending the volcano and returning to Puerto Villamil. Late in the afternoon there will be a chance to write up logbooks or an optional snorkeling trip at Concha del Perla, located near the hotel.
Jan 11	Isabela Island Galápagos	Today we will take a one-hour boat trip southwest along the coast of Isabela to visit the marine sanctuary, Los Túneles, a unique network of channels, arches, and tunnels formed by a series of lava flows that we will investigate with our snorkeling equipment. In the late afternoon we return to Puerto Villamil.
Tues Jan 12	Isabela Island / Santa Cruz Island, Galapagos	In the morning we will visit the Giant Tortoise Breeding Center. Later in the morning we will visit "The Wall of Tears", built between 1946 and 1959 when Isabela was a penal colony. Additionally, we will visit a small lava tunnel and a flamingo lagoon. In the afternoon we have opportunities to snorkel again or take a coastal walk.
Jan 13	Guayaquil, Ecuador	This morning we will transfer by boat to Santa Cruz Island. Continue by land to the Baltra Island canal, and then on to the Baltra Airport in time for our flight to Guayaquil. Upon arrival in Guayaquil, we will be met by Andean Discovery staff and transferred to our hotel. Guayaquil is the economic capital of Ecuador and has a very different flavor to Quito. Our hotel is within walking distance of the Malecón

Assessments:

1. During the field trip each student will keep a journal in which notes from lectures or field trips will be kept. At the conclusion of each day of the field trip, students will be expected to write at least **one page** in which they summarize the events of the day, and her/his impressions, and what has been learned. Students may be asked to read from their journals during the field trip. **Journals are due by March 1st.**

2. At the end of the field trip there will be an essay-based examination. Questions will cover the biological, environmental and geographical fields. **The exam questions will be distributed on January 29th, and answers collected on February 5th.**

3. All students will also be required to produce a substantive research paper on on the biological diversity of the Galapagos and Ecuador. **Research papers are due on April 2nd.**

4. Participation will be judged by the instructor. Full credit will be earned if students attend all field trips, lectures, night walks, and other events, and if they make a positive contribution to all such events.

Grading procedure: The journal is worth 100 points. The final examination and the research paper are worth 125 points each. Participation is worth a further 50 points [for 400 points total].

NB: Graduate students and undergraduate students taking these courses, although the courses are co-listed, for grading purposes and assessments will be treated differently. For the assignment undergraduates are expected to deliver a 4000 word minimum and graduate students have a 8000 word minimum. Graduate and undergraduate assignments and exams will be graded separately and to different standards.

Honor Code: Adherence to the *GMU Honor Code* is expected of all students.

Belize Ridges to Reefs Course

Center for Global Education, George Mason University

EVPP 490, NCLC 399, or BIO 440

07 - 20 January 2014

FACULTY DIRECTOR:

Katheryn Patterson, Ph.D. Candidate

Office: 1219 Exploratory Hall

Email: kpatter3@gmu.edu

Office Hours: By appointment please.

COURSE DESCRIPTION:

This course is an introduction to the unique terrestrial and aquatic ecosystems found in the tropical latitudes. Topics covered include but are not limited to:

- Tropical marine ecology
- Caribbean reef fish identification and biology
- Marine invertebrate identification
- Mangrove forest, coral reef, and sea grass ecology
- Tropical rainforest ecology
- History and culture of Belize
- Mayan archaeology
- Tropical conservation issues in developing countries

The course will culminate with a discussion of conservation issues relevant to the tropics. Although Katheryn Patterson will be responsible for most of the lectures, students will also partake in hands-on, in-the-field studies assisted by local Belizean guides.

This study abroad course will consist of a 14-day field trip to Belize; including visits to the:

- **Tropical Education Center (TEC) & Belize Zoo** was started in 1983, as a last effort to provide a home for a collection of wild animals that had been used in making documentary films about tropical forests. The Belize Zoo and Tropical Education Center is settled upon 29 acres of tropical savanna and exhibits over 125 animals all-native to Belize. The zoo houses animals that were either orphaned, born at the zoo, rehabilitated, or sent to The Belize Zoo as gifts from other zoological institutions.
<http://www.belizezoo.org/>
- **Actun Tunichil Muknal (ATM) "Cave of the Stone Sepulchre"** is one of the most impressive caves in the Maya lowland. This cave was a sacred place to the prehistoric Maya of Belize, who first began to use the entrance during the early classic period (300-600 A.D.). The cave system consists of a series of chambers, ending in a 300 by 50 meter cathedral where sacrificial ceremonies once took place. Within the chamber, there are over 80 Mayan pots, stone tools and the skeletons of what were believed to be sacrificial victims.
http://www.travelbelize.org/index.php?option=com_content&task=view&id=167&Itemid=325&Ytemid=425



- **Xunantunich** is a Mayan archeological site located across from San Jose Succotz, a few miles from Belize's western border. The largest pyramid, El Castillo, rises 130 feet above the main plaza and offers an impressive panoramic view of Belize's Cayo District and nearby Guatemala. http://www.travelbelize.org/index.php?option=com_content&task=view&id=113&Itemid=98&Ytemid=154
- **Sibun Forest Reserve / River**, The Sibun Forest Reserve encompasses over 100,000 acres of pristine tropical rainforest. The Sibun is one of Belize's major river systems. Along with the Caves Branch River and Dry Creek, the Sibun River drains a major portion of the northeastern section of the Maya Mountains. The river has many faces as it winds its way from deep within the interior of the country to the mouth just south of Belize City. Though the river travels a little over 50 miles from source to mouth, the many twists and turns translates into over 100 miles of actual river. <http://belize.fm/sibun-forest-reserve/>; <http://www.travelbelize.org/activities/sibun-river-2>
- **Half Moon Caye Natural Monument**, Lighthouse Reef, Halfmoon Cay, Lighthouse Reef is a remote 45-acre island with stands of coconut palm and littoral hardwood forest. The island is also home to a profusion of wildlife, including a 4,000 strong red-footed booby colony. Because of it's biological diversity Half-Moon Cay was first protected in 1928 and has the distinction as the first protected marine area in the entire Caribbean. We have over 50 square miles of pristine coral reefs and remote islands as our natural classroom using sea kayaks and motorboats to access our study locations that are located in different locations around the atoll. http://www.belizeaudubon.org/protected_areas/half-moon-caye-natural-monument.html
- **The Great Blue Hole**, made famous by Jacques-Yves Cousteau in 1971, is one of the most astounding snorkeling and dive sites to be found anywhere on earth. Inside this hole the water is 480 feet (145 m) deep and it is the depth of water, which gives the deep blue color that causes such structures throughout the world to be known as "blue holes." The Blue Hole is a perfectly circular limestone sinkhole more than 300 feet across and 412 feet deep. <http://www.belize.com/belize-blue-hole.html>

****A DETAILED DAILY ITINERARY WILL BE GIVEN TO YOU PRIOR TO DEPARTURE.**

REQUIRED READINGS AND MATERIALS:

1. Paul Humann. Reef Fish in a Pocket Identification Book.
2. A rite in the rain transit spiral notebook (4 5/8" X 7") is highly suggested for taking notes in the field.

Suggested textbooks:

1. P. Humann. 2002. Reef Fish Identification: Florida, Caribbean, Bahamas. New World Publications: Jacksonville, FL.
2. P. Humann. 2002. Reef Creature Identification: Florida, Caribbean, Bahamas. New World Publications: Jacksonville, FL.
3. P. Humann. 2002. Reef Coral Identification. New World Publications: Jacksonville, FL.
4. Belize & Northern Guatemala (Travelers' Wildlife Guides) http://www.amazon.com/Belize-Northern-Guatemala-Travellers-Wildlife/dp/1566565685/ref=sr_1_14?ie=UTF8&qid=1317852438&sr=8-14
5. Birds of Belize (http://www.amazon.com/Birds-Belize-Corrie-Herring-Hooks/dp/0292701640/ref=pd_sim_b1)

Grading

The grade in the course will be based on the following:

Assignment:	Points:
Research Paper	175
- Proposal	(25)
- First paper copy	(50)
- Final paper	(100)
Journal	100
- Typed daily log	(25)
- Physical journal	(40)
- Species list	(25)
- Creativity	(10)
Final Exam (in-country)	100
Participation	25
TOTAL:	200

1. Research Paper:

Students should submit a written, 1 page proposal for their paper topic for approval to the instructor *before departing for the course*. Students are required to write an 8-10 pg. research paper (12-point font, double-spaced) that focuses on a conservation issue of interest that is relevant in Belize. Students should describe the conservation issue by giving details about the threats to a specific species or community, the history or development of these threats, and what steps are being taken to ameliorate or halt the conditions that have produced the problem. Finally, students should describe the future prospects for this species or community.

Students will submit a polished first draft of their research paper by 6:00 p.m. on **Thursday, January 30, 2014**. Students should treat this draft as if they are turning in their final paper. The goal of this draft is to allow the professor to look over your research paper so that any major issues may be worked out before the final version of the paper is due. This paper IS graded, evaluated and returned to you. You must then resubmit your paper, taking into account the suggestions that were given for your original paper.

Final research papers will be due four weeks after the final day of the course by 6:00 p.m. on **Thursday, February 13, 2014**.

2. Journal & Species list:

During the field trip each student will keep a journal in which notes from lectures or field trips will be kept. At the conclusion of each day of the field trip, students will be expected to write at least two pages in which they summarize the events of the day, her/his impressions from that day, and what he/she has learned. The written portion of the journal should be academically focused. This section can either be turned in as a separate typed document or incorporated into the student's journal. Students are encouraged to be creative when creating their journal (i.e. make a scrap book, add photos, make a creative video journal, use a unique writing style, etc.). Lastly, students may be asked to read from their journals during the field trip. Journals are due by 6:00 p.m. on **Thursday, January 30, 2014**.

Within the written journal students should keep a daily log of species observed. The species log

should include where the species was observed (i.e. location and habitat type), the common/local name of the organism, as well as its properly formatted scientific name, Genus species (*i.e.*, Humans = *Homo sapien*). The species list should be typed once the student returns home and should be submitted as a separate document with the student's journal by 6:00 p.m. on **Thursday, January 30, 2014.**

3. **Final Exam:** An essay exam will be given at the end of the course based on the lectures the students receive during the trip any reading materials. The timing of the exam will be discussed during the mandatory orientation meeting in December.
4. **Participation:** The instructor will judge participation. Full credit will be earned if students attend and **ARE ON TIME** to all field trips, lectures, and other events, and if they make a positive contribution to all such events.

GRADING SCALE

Points	Grade	GPA
382 – 400	A+	4.00
358 – 381	A	4.00
342 – 357	B+	3.33
318 – 341	B	3.00
302 – 317	C+	2.33
278 – 301	C	2.00
238 – 277	D	1.00
< 237	F	0

WRITING SCIENTIFIC PAPERS

Research for the paper should be gathered from a variety of resources. Texts, magazines, peer-reviewed journals, and reputable websites should be included and cited in your research. A **minimum of 8** different sources is required. When writing the paper and citing references please consult the “Guide to Writing in Biological Sciences” on the George Mason University website:

<http://classweb.gmu.edu/WAC/Biology/GenIntro.htm>

Additionally, please take advantage of the resources at the GMU writing center

<http://writingcenter.gmu.edu>

You may also consult the following references:

- 1) McMillan, V.E. 1988. *Writing Papers in the Biological Sciences*. St. Martin's Press, New York, NY.
- 2) Pechenik, J.A. 2001. *A Short Guide to Writing about Biology, 4th Edition*. Addison Wesley Longman, New York, NY.

How to Cite Sources

There are ways of citing sources in the text so that the reader can find the full reference in the literature cited section at the end of the paper, yet the flow of the reading is not badly interrupted. Below are some examples of how this can be done:

Coblentz (1997) demonstrated artisanal fisheries to be 262 unsustainable and can quickly alter reef communities.

The interactions between these three ecosystems support the high biodiversity of the marine organisms found within the atoll its surrounding areas (Green and Short 2003).

A similar study in Scotland surveying the general public by Parsons and Scott (2006) found that almost all participants were opposed to the hunting of whales (96.4%); with the vast majority (75%) responding with a strong opposition to whaling and the remaining participates (21.4%) stating that they were merely “against” the activity.

On a larger scale, site fidelity patterns indicate a high proportion of dolphins are transient 280 and use a much larger area than Turneffe (Campbell *et al.* 2002).

Turneffe is separated from the Belizean mainland by the largest barrier reef in the Western hemisphere, second in size only to Australia’s Great Barrier Reef (Campbell *et al.* 2002; Grigg and Markowitz 1997; Stoddart 1962).

Note that articles by one or two authors are always cited using their last names. However, if there are more than two authors, the last name of the first author is given followed by the abbreviation *et al.*, which is Latin for "and others". Make sure you give a full citation in the Literature Cited section for all sources mentioned in the text.

Also do not make excessive use of quotes – this is effectively plagiarism too, **PARAPHRASE!!** - For example, the following is plagiarism although it is cited:

It is said that “Group size in bottlenose dolphins, as in many other species, is a tradeoff between optimizing foraging efficiency and minimizing predation risk. While there have been no studies of prey characteristics for Drowned Cayes or Turneffe dolphins to date, no observations or images indicated evidence of shark bites, suggesting that predatory threats from sharks are minimal. Low apparent predation at the Drowned Cayes suggests, as it did at Turneffe, that energy intake is a primary selective pressure on group size; and, the small group sizes in these areas are optimized for food resources that are likely low in density.” (Kerr and Campbell 2005).

Quotes are rarely used in scientific papers and are usually used to illustrate s specific person’s opinion or organization’s opinion as an example. To illustrate:

At least one of the fellowship was of the opinion that possession gold rings, inscribed with strange writings can lead to paranoid delusions and even multiple personality disorder, for example Baggins (2000) quotes a patient who declared “we wants it, doesn’t we precious?” (p. 52 in Baggins 2000) during periods of stress.

Literature Cited

This is the last section of the paper. Here you should provide an alphabetical listing of all the published work you cited in the text of the paper. A standard format is used both to cite literature in the text and to list these studies in the Literature Cited section. Consult McMillan (1988), Pechenik (2001) or a recent issue of *Ecology* for guidance. Hypothetical examples of the format used in the journal *Ecology* are below:

Stoddart, D.R. 1962. Three Caribbean atolls: Turneffe Islands, Lighthouse Reef, and Glover’s Reef, British Honduras. *Atoll Research Bulletin*, 87:1-147.

Fisher, S.J. and R.R. Reeves. 2005. The global trade in live cetaceans: implications for conservation. *International Journal of Wildlife Law & Policy*, 8:315-340.

Bearzi, G., D. Holcer, and G. Notarbartolo Di Sciara. 2004. The role of historical dolphin takes and habitat degradation in shaping the present status of northern Adriatic cetaceans. *Aquatic Conservation of Marine and Freshwater Ecosystems*, 14: 363-379.

Nagelkerken, I.C., S. Kleijen, T. Klop, R.A.C.J. van den Brand, E. Cocheret de la Morinière, and G. van der Velde. 2001. Dependence of Caribbean reef fishes on mangroves and seagrass beds as nursery habitats: a comparison of fish faunas between bays with and without mangroves/seagrass beds. *Marine Ecology Progress Series*, 214: 225-235.

For **papers published in journals** you must provide the date, title, journal name, volume number, and page numbers. For books you need the publication date, title, publisher, and place of publication:

Sokal, R.R., and F.J. Rohlf. 1995. *Biometry: the principles and practice of statistics in biological research*. 3rd Edition. Freeman, New York, NY.

Chapters in books of edited research papers follow the format below:

Bannister, J.L. 2002. Baleen Whales. In W. F. Perrin, B. Würsig, & H. G. M. Thewissen (Eds.), *Encyclopedia of marine mammals* (pp. 63-72). San Diego, CA: Academic Press.

Web sites should **not** be used as references unless they are peer-reviewed, archived online publications. Since the content of web sites can be altered without notice, you should indicate the year in which the information was posted (if known), and the date when you accessed the information. Give the author, organization and title of the web site. Finally, list the web address such as: <http://gazette.gmu.edu/>

"Does Grammar Count?" The short answer to this question is, **"YES!"**

Students should use both the spell-check and grammar-check functions on their computers. In addition, "check the checker" with a writing manual. Excessive grammatical or spelling errors will result in the deduction of points. Again, go to the University Writing Center to work with a tutor if you have specific problems.

Honor code

Students are required to read and adhere to the George Mason University Honor Code. Ignorance of the Honor Code is no excuse for infractions thereof. All departments at the university strongly enforce the GMU Honor Code. We do not take plagiarism lightly. Know what it means – and know the consequences from the GMU honor code policy. I use a software that scans all of your research papers – and it performs remarkably well in finding any existing student papers or websites that have similar wording. Never cut and paste anything from a website or a friend's paper. I do not mean to offend anyone here or imply that this will happen, but I want to remove any temptation whatsoever. Just rely on the actual journal articles for your research – and write everything in your own words (with citations). Remember that I am here to help you through this.