

# **Course Approval Form**

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

registrar.gmu.edu/facultystaff/curriculum

Action Requested:  X Create new course Modify existing course (check Title Prereq/coreq Other:  College/School: College of Sc	Repeat Status Restrictions	Grade Type	Irse Level: Undergraduate Graduate  tal Science & Policy		
Submitted by: Alonso Aguir		Ext: 703-993-7069	Email: aaguirre@gmu.edu		
Subject Code: EVPP I  (Do not list multiple codes or numbers. Each have a separate form.)		Effective Term: Fall X Spring Summer	Year 2016		
Title: Current  Banner (30 characters max in the New Marine Ecology		Ecology			
	Repeat Status: (check one)	X Not Repeatable (NR) Repeatable within degree (R Repeatable within term (RT)	D) Maximum credits allowed:		
Grade Mode: X Regular (A, B Satisfactory/N Special (A, B	o Credit (check one)	Lab (LAB)	Independent Study (IND) Seminar (SEM) Studio (STU)		
Prerequisite(s):	Corequisite(s):		Instructional Mode:		
BIOL 308 and BIOL/EVPP/GEOI permission of instructor.  Restrictions Enforced by Systems		ogram, etc. Include Code	X 100% face-to-face Hybrid: ≤ 50% electronically delivered 100% electronically delivered  Are there equivalent course(s)?		
Restrictions Emorced by Oyst	sin. Major, Gollege, Degree, Th	ogram, etc. moldde oode.	X Yes No If yes, please list EVPP449 & BIOL449		
Catalog Copy for NEW Cour	ses Only (Consult University Ca	talog for models)			
Description (No more than 60 words			,		
Presents the Ecology of Marine Ecosystems including from the intertidal zone to the deep sea, and from coral reefs to seagrass beds and polar seas. Overviews the evolutionary characteristics and ecological processes and community structure of species and their habitats; and special problems that					
confront marine organisms due to anthropogenic change.  Indicate number of contact hours: Hours of Lecture or Seminar per week: 3 Hours of Lab or Studio:  When Offered: (check all that apply) Fall Summer X Spring					
Approval Signatures					
Department Approval	Date	College/School Approval	Date		
			ent must circulate this proposal for review by		
those units and obtain the necessary	signatures prior to submission. Fai	lure to do so will delay action on th	is proposal.		
Unit Name	Unit Approval Name	Unit Approver's Signature	Date		
For Graduate Courses Only					
Graduate Council Member	Provost Office		Graduate Council Approval Date		
For Registrar Office's	Use Only: Banner	_Catalog	revised 11/8/11		

# Course Proposal Submitted to the Curriculum Committee of the College of Science

## 1. COURSE NUMBER AND TITLE: EVPP 549 Marine Ecology

Course Prerequisites: BIOL 308 and BIOL/EVPP/GEOL 309 or permission of instructor.

## **Catalog Description:**

Presents the Ecology of Marine Ecosystems including from the intertidal zone to the deep sea, and from coral reefs to seagrass beds and polar seas. Overviews the evolutionary characteristics of marine oceanic organisms; open populations that have larval, juvenile and adult stages; basic ecological processes, such as predation, competition, and disease; and community structure within various habitats. Special problems that confront marine organisms due to anthropogenic change will be addressed.

## 2. <u>COURSE JUSTIFICATION</u>:

#### **Course Objectives:**

The course is targeted for graduate students to deepen their knowledge of marine ecology including: a) the biology and ecology of key groups of marine species and major marine habitats; and adaptations of marine species in these environments and their ecological interactions; b) ability to discuss ecological topics related to marine ecology; c) ability to apply principles of ecology and evolution and develop hypothesis testing, evidence, experiments and the factors that control populations and community structure, the natural history of marine communities and threats to and conservation of marine ecosystems (changes: patterns, causes, remedies); and d) strengthen skills in scientific writing, examining the scientific literature, and sharpen critical thinking skills to be able to explain the role of science in marine ecology to the general public and policy makers.

# **Course Necessity:**

Environmental scientists need this information. No other course exists that covers these topics for graduate students.

## **Course Relationship to Existing Programs:**

This course will be offered as an elective for the MS in Environmental Science and Policy and the PhD in Environmental Science and Public Policy.

# **Course Relationship to Existing Courses:**

This is a new course does not exist as a graduate course. This course will co-meet with EVPP449 and BIOL449 already offered to upper undergraduate students. Graduate students in this course will have separate (longer) reading and writing assignments and will be graded according to a different rubric than the undergraduate students.

#### 3. APPROVAL HISTORY:

This is the first time this course has been submitted for approval at the graduate level. It is based on the undergraduate course EVPP449/BIOL449 taught by Dr. Alonso Aguirre during Spring 2015.

#### 4. SCHEDULING AND PROPOSED INSTRUCTORS:

**Semester of Initial Offering:** Spring 2016

**Proposed Instructor:** Dr. Alonso Aguirre

5. TENTATIVE SYLLABUS: Attached

## MARINE ECOLOGY EVPP 549-001 (CRN\_\_\_\_\_)

3 Credit Hours

#### **GEORGE MASON UNIVERSITY**

Spring Semester 2016

Lecture: Tuesdays and Thursdays 3:00-4:15 pm [Building], Room [number]

**Instructor:** Dr. Alonso Aguirre

Office: 3026 David J. King Hall MSN: MSN: 5F2, Fairfax

420 Occoquan Building PW MSN: 4D4, Manassas

**Office Hours:** Tuesdays & Thursdays 1:00-3:00 pm

or BY APPOINTMENT (send email request)

Phone: 703.993.7069
Cell: 304.200.0145
Email: aaguirr3@gmu.edu

Prerequisite(s): Fundamentals of Ecology & Evolution (BIOL308), Introduction to

Oceanography (BIOL/GEOL309) or Instructor's permission.

Sign up for Mason Alert (e.g., weather closings, emergencies) at <a href="https://alert.gmu.edu">https://alert.gmu.edu</a>

## **Syllabus**

**Course Description**: According to the University's catalog description, this course explores "Plants and animals of marine environments and physical and chemical conditions that affect their existence."

Marine Ecology is the scientific study of marine-life habitat, populations, and interactions among organisms and the surrounding environment including both abiotic and biotic factors. Marine ecology includes observations at the biochemical, cellular, individual, and community levels as well as the study of marine ecosystems and the biosphere. The oceans comprise 71% of the Earth's ecosystems containing an incredible diversity of life, habitats and ecosystems in which organisms interact. The oceans from the intertidal zone to the deep sea, and from coral reefs to seagrass beds will be surveyed. Evolutionary characteristics of marine oceanic organisms; open populations, in which organisms have separate larval, juvenile and adult stages; basic ecological processes, such as predation, competition, and disease; and community structure within various habitats will be covered. Humans have introduced alien species and pathogens, destroyed habitats, removed organisms from the water, and practically changed the global climate. The students will learn special problems that confront marine organisms due to anthropogenic change and impacts that people have on marine ecological processes, and ways to protect the oceans and possibly prevent marine extinctions.

**Course Objectives:** The course is targeted for graduate students to deepen their knowledge of marine ecology including:

- a) The biology and ecology of key groups of marine species and major marine habitats; and adaptations of marine species in these environments and their ecological interactions;
- b) Ability to discuss ecological topics related to marine ecology;
- c) Ability to apply principles of ecology and evolution and develop hypothesis testing, evidence, experiments and the factors that control populations and community structure, the natural history of marine communities and threats to and conservation of marine ecosystems (changes: patterns, causes, remedies); and
- d) Strengthen skills in scientific writing, examining the scientific literature, and sharpen critical thinking skills to be able to explain the role of science in marine ecology to the general public and policy makers.

**Method of Instruction:** The course objectives will be achieved through didactic lectures and assigned reading, presentations and student discussion. Transdisciplinary teams will be able to resolve current problems and support creative, analytical and critical thinking.

Course Expectations: As with any graduate level course offering, *this will not be an easy course*. The successful student **must read assignments, study supporting materials, and prepare assignments outside of class**. Self-directed study skills are important. Students need to organize material logically and communicate well orally and in writing.

## Class Preparation

Reading, research, and assignments are detailed on the following class outline. Any concerns about keeping up with assignments should be discussed with Prof. Aguirre.

More students are juggling work, research, internships, shadowing, and families. Please note "employment must not take priority over academic responsibilities. Students employed more than 20 hours a week are strongly urged not to attempt a full-time academic load. Students employed more than 40 hours a week should attempt no more than 6 credits per semester. Students who fail to observe these guidelines may expect no special consideration for academic problems arising from the pressures of employment." Please consider your responsibilities and interests and plan accordingly to protect your health and GPA!

## Class Participation

Students should come to class ready to participate in all activities (assignments completed prior to class). They should behave in a mature and professional manner and abide by the GMU honor code. **Please turn off cell phones or pagers before class begins.** 

**Absenteeism should be limited to illness or emergencies, or discuss concerns with the instructor.** Students should notify the instructor before class if they must miss a class. **Multiple missed classes can affect student grades.** *PowerPoint lectures are posted* but you need to make every effort you can to attend as about 50% of the material presented will be contained on the posted PPTs. Students should contact classmates to obtain lecture notes and assignments, if necessary.

Students may record the lectures (sound), but may not take photographs or videos. Instead, they should take notes, which will help them study for the exams. If using electronic devices (such as laptops, notebooks, tablets), please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism and can affect your grade.

If you are a student with a disability and you need academic accommodations, please notify the instructor and contact the Office of Disability Services (ODS) at 703-993-2474. All academic accommodations must be arranged through the ODS.

#### **E-mail Communications**

I will send group e-mail messages **via Blackboard** and only to your GMU e-mail account. Students must use their Mason email accounts—"MASONLIVE" account—to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information. Please be sure you check it often and keep your mailbox from getting "over quota".

## **Required Textbooks**

Levinton, J. 2013. Marine Biology: Function, Biodiversity, Ecology, 4TH edition, Oxford University Press, New York.

Steinbeck, J. 2001. The Log from the Sea of Cortez. Penguin Classics. 288 pp. Originally released in 1951 by The Viking Press. "In the two years after the 1939 publication of his masterful The Grapes of Wrath, Steinbeck and his novel increasingly became the center of intense controversy and censorship. In search of a respite from the national stage, Steinbeck and his close friend, biologist Ed Ricketts, sailed in a sardine boat on a month long marine invertebrate-collecting expedition in the Gulf of California, which resulted in their collaboration on the Sea of Cortez. In 1951, after Ricketts' death, Steinbeck reissued his narrative portion of the work in memory of his friend and the inspiration for Cannery Row's "Doc". This exciting day-by-day account of their journey together is given in the log. It is a rare blend of science, philosophy, and high-spirited adventure. This edition features an introduction by Richard Astro and Steinbeck's profile of his fellow traveller" <a href="https://play.google.com/store/books">https://play.google.com/store/books</a>

**Required Readings:** Required readings will include chapters from textbook and journal articles (I will provide PDFs for these articles) and Steinbeck's book. These required readings are expected to be completed prior to the designated class dates and will be essential for classroom discussions and lectures. All required readings are possible content for examinations. Access to some journal articles may require students to conduct searches using virtual or other library facilities. In addition, several overview websites are provided under *Supplementary Readings & Viewings* and *Other Reference Texts* following the Course Syllabus.

# **Supplementary Readings & Viewings**

MarineBio

http://marinebio.org/oceans/marine-ecology/

#### **Other Reference Texts**

Several marine ecology and marine biology have been published in recent years. Some are rather focused and advanced, and others may provide the fundamentals needed for this course. I selected *Levinton's Marine Biology: Function, Biodiversity, Ecology, 4th Edition*, supplemented with additional readings, videos, websites and other materials for this course. This book is "widely regarded as an accessible and comprehensive text for undergraduate marine biology courses. It examines marine biology from a unique global and evolutionary perspective. Written in a clear, conversational style, this book emphasizes the principles and processes that unify different marine communities" (www.neebo.com).

Other useful recent books include:

Barnes R.S.K. and R.N. Hughes. 1999. An Introduction to Marine Ecology 3<sup>rd</sup> Ed. Blackwell Publishing, Malden, MA. 270 pp.

Bertness M.D., J.F. Bruno, B.R. Silliman and J.J. Stachowicz. 2014. Marine Community Ecology and Conservation. Sinauer Associates, Sunderland, MA. 566 pp.

Connell S.D. and B.M. Gillanders. 2007. Marine Ecology. Oxford University Press. New York, NY.

Crowe T.P. and C.L.J. Frid. 2015. Marine Ecosystems: Human Impacts on Biodiversity, Functioning and Services (Ecology, Biodiversity and Conservation). Cambridge University Press, 410 pp.

Kaiser M.J., M.J. Attrill, S. Jennings, D.N. Thomas, D.K.A. Barnes et al. 2011. Marine Ecology: Processes, Systems and Impacts, 2<sup>nd</sup> Ed. Oxford University Press, New York, NY. 501 pp.

Morrissey J.F. and J.L. Sumich. 2012. Introduction to the Biology of Marine Life, 10<sup>th</sup> Ed. Jones and Bartlett Learning, LLC. Sudbury, MA. 467 pp.

Speight M.R. and P. Henderson. 2010. Marine Ecology: Concepts and Applications. Wiley-Blackwell. Hoboken, NJ. 271 pp.

# COURSE SCHEDULE

Week	Date	Topic	Required Readings
1		Introduction to the course	
		What is Marine Ecology?	Chapter 1
2		Living in the oceanic environment	Chapter 2
		Ecological and evolutionary theory	Chapter 3
3		The chemical and physical environment	Chapter 4
		Ecological principles in a fluid medium	Chapter 5
4		Reproduction, dispersal and migration	Chapter 6
		Organisms of the Open Sea: Marine	Chapter 7
		microorganisms & phytoplankton	
5		Marine Vertebrates and other Nekton	Chapter 8
		Marine Vertebrates as Sentinels of Marine	EcoHealth Special Issue on
		Ecosystem Health	Sentinels
6		Processes in the open sea	Chapter 9
		Productivity, biomass & food webs	Chapter 10
7		Benthic microorganisms, sea weeds, and	Chapter 11
		sea grasses	
		Midterm Exam	Chapters 1-11
8		Spring Break – NO CLASSES	
9		Benthic life habits	Chapter 13
		Temperate Coastal Seas and Estuaries	Chapter 14
10		The Log from the Sea of Cortez overview	Steinbeck's book
		Written Assignment 1 Due	
		Steinbeck's book class exercise	
11		Kelp Forests & Grass Beds	Chapter 15
		Coral Reefs	Chapter 15
12		Continental Shelf to Deep Seas	Chapter 16
		Written Assignment 2 Due	
		Polar Environments	Chapter 16
13		Ocean Biodiversity and Conservation	Chapter 17
		Fisheries and Food from the Sea;	Chapter 18
14		Global environmental change and marine	pp. 29-33, 75, 78-80, 237-240,
		ecology	513-515; PEW Report 2002
		Environmental Impacts of Industrial	Chapter 19
		Activities and Human Populations	
15		<b>Definitions of Terms Due</b>	Aguirre et al Chapter 26
		Harmful Algal Booms: Impacts to Species	
		and Ecosystems	
		Marine Ecosystem Health: Sentinels &	Aguirre and Weber 2012
		Assessment	
16		Final Team Presentations	
		Final Exam 7	

**NOTE:** This is a tentative course schedule that is subject to CHANGE. You should be aware that dates for certain lecture materials could change or new lecture materials could be added. If such changes do occur they will be discussed in class prior to the actual change.

#### **GRADING CRITERIA:**

In addition to the undergraduate requirements, all graduate students will be required to do a second written assignment, read one scientific article each class that will be discussed among peers, and prepare a PPT presentation on a selected marine species or ecosystem to be delivered in class. Also, midterm and final exams will be more difficult. The total grade received for this course will be based on the following assignments and assessments:

Activity	Percent Contribution to Total Grade
Definitions of Terms & scientific articles reviewed	10%
Written assignment 1	10%
Written assignment 2	10%
Four surprise quizzes throughout the course	20% (5% each)
Mid-term Exam: Short assay, fill in the blanks,	
matching columns, T/F	20%
PPT Presentation	10%
<b>Final Exam</b> : Short assay, fill in the blanks, matching	20%
columns, T/F	
TOTAL	100%

The final grade will be based on this scale: A = 100-95%, A = 94-90%, B = 89-85%, B = 84-80%, C = 79-70%, D = 69-60%, F < 59%. A **CURVE WILL NOT BE APPLIED.** 

#### **COURSE ASSIGNMENTS**

**Definitions of Terms:** Each student is expected to identify 100 common terms in marine ecology and submit them written by hand. This is a way to expose you to common terminology hoping that you may remember some of these definitions while writing them.

Exams and quizzes will take place in [Room] [number] and it is expected that students will sit in every other seat with a chair between students and not directly beside each other during exam periods

Assignments should be prepared neatly (preferably computer-generated). Be sure to <u>proofread</u> your work to double-check facts, grammar, and spelling; use a spelling- and grammar-checking program if possible, but note that you cannot rely solely on it, proofreading is essential! Sloppily prepared assignments can adversely affect your grade, especially if improvement is not noted during the course.

Assignments will not be accepted at all <u>8 days (next class) after the due date, or after the last day of regular classes</u>, whichever comes first. Grades on all assignments will be counted as part of the final grade. (A score of "0" will be given to assignments not turned in by 8 days (next class) after the due date or the last day of regular classes.)

## **Written Assignments**

In addition to reading and studying the textbook, other books, and journal papers, you will prepare two written assignments of 400 words not including references drafted as a commentary, comparing, contrasting, or critiquing a technical or popular article recently published (2014-15) on a marine ecology, management or conservation issue (i.e. fisheries overharvesting; threats to endangered monk seals; HABs), in the style of *Letters to Science*http://www.sciencemag.org/site/collections/online/eletters/guidelines.xhtml

Identify *specific* issues/critiques you have with **an article of your choice from a refereed journal or popular magazine**. This can be something that you found problematic, interesting, ridiculous, missing, etc. and then compare and support your arguments with other sources in the literature. You are **encouraged** to search articles from all sources. Use Web of Science or other journal databases to do additional literature searches.

Make your critiques **explicit and clear**, e.g.: "I find three main critiques in the way this argument was presented." ... paragraph 1, 2, 3. Preferable to critique is a piece of **primary** literature, popular magazine or even TV news report, and not a review paper or chapter.

Do not spend too many words describing the intro, methods, conclusions, etc. of the article or report that you are critiquing. Try to give a very **brief** overview of the important points or methods and spend the rest of your paper giving **your own** "two-cents"! A good idea is to end with what you think needs to be done in the future based on your critique. **Don't be repetitive** with your points, you only have up to 400 words, therefore be concise and clear. Make every word count (this may be one of the big challenges of the assignments and will train you for real manuscript writing with editor-imposed word limits).

**Proofread**: Review your spelling and grammar before handing your work in! Avoid run-on or ambiguous sentences.

Each paper should be neatly prepared and proofread, especially checking for consistency, completeness, and correctness (Help: The Writing Center, OWL/On-line Writing Lab). Many online grammar resources are available now. This book might help when writing:

Ross-Larson, B. 1996. *Edit Yourself: A Manual for Everyone Who Works With Words*. W.W. Norton & Co., New York, NY.

All statements of fact in your paper need to be referenced to some authority. You can of course get access to that material electronically, BUT the use of web sites as a primary source of

information is discouraged. You should be using primary literature (e.g. peer reviewed journal articles) and reports for your authority. Limit web citation to no more than about 25% of the total. Full references (all authors names) should be provided in the Literature Cited section of your paper. As for citation style – use *Letters to Science*, but include all authors in the Literature Cited portion of the paper. Footnotes are reserved for limited explanatory material only. In the body of the text use numbers with an alphabetized Literature Cited section.

Use **proper reference structure**, author-year e.g., "AbuBakar *et al* (2011) isolated Nipah virus from pigs" or numbered reference (if you want to save words), e.g. "Nipah virus was isolated from pigs [1]".

#### **References:**

1. AbuBakar, S., L.-Y. Chang, A.R.M. Ali, S.H. Sharifah, K. Yusoff, and Z. Zamrod, *Isolation and molecular identification of Nipah virus from pigs*. Emerging Infectious Diseases, 2004. **10**:2228-2230.

Please use Word (either .doc or .docx files only) and email both papers to me at the due dates.

#### **PPT Presentation**

Graduate students are required to present a 20-25-min presentation (5-10 min of Q&A) via PowerPoint slides on a *contemporary* issue/topic relevant to *Marine Ecology*. The issues/topics (*but not the contents*) for the presentations are not limited to those covered in the textbook. Choose your favorite marine species or ecosystem from a newspaper, magazine article, or scientific journal article. In your presentation, provide a brief background of the problem; describe the impacts to species and ecosystems and concerns from an economic, cultural, environmental or ecological perspective. Impacts can be considered from species to ecosystems and from molecular to global. Management implications to protect that species or ecosystems need to be addressed.

Presentations will be **30 minutes total** (20-25-minute presentation and 5-10 minutes for questions).

The slide presentation "rule of thumb" is 1 slide per minute so plan accordingly. Your 1<sup>st</sup> slide should be a title slide with your name and title of the talk. Next should be an introduction & overview to the topic followed by more specifics. Next you should discuss the implications, threats and ecology of your species and/or ecosystem and the management issues related to marine ecology. Finally, you should provide conclusions in which the main points are highlighted.

Presentations will be graded on the clarity of the presentation, the professionalism of the slides, the content of the material presented, and your ability to answer questions posed by classmates and instructor.

Each topic below will get a score ranging from 1 (poor), 2 (good), 3 (fair) 4 (very good), 5 (excellent)

Literature Review- Scope of information gathering

Scientific knowledge- How accurate is the information presented

**Management Implications**- all presentations should address *at least* 3 of the following areas:

- a) Ecology and conservation threats to a species or ecosystem
- b) Economic perspectives
- c) Cultural perspectives
- d) Socioeconomic perspectives
- e) Environmental policy angle
- f) Perspectives from both ecology and conservation
- g) Solutions to the problems outlined

Conclusions-Conclusions are sound and supported by data

Slides-Slides are well organized, logical, and easy to read and to interpret

**Style**-Delivery is clear, audible, with proper elocution and eye contact with audience

**Time**-Speaker adheres strictly to time limit.

#### **ACADEMIC INTEGRITY**

In a way I dislike even bringing up the subject because it might be taken to suggest that students are not to be trusted. However, faculty are advised to include statements about academic integrity with all syllabi. My main concern here is that you act as "professionally" as possible and that you not mistakenly act in manner that would be taken badly. One main issue comes up of course – that is plagiarism. We all know it is easy in most cases to cut and paste others' words and put them in a document with our names on it. Clearly that is unacceptable. I have had some experience with cases in which students did not know the boundaries of plagiarism and so blundered into problems – sometimes severe ones. So, if you have any question about what is acceptable and what is not, do chat with me. Especially do not wait to work on your papers and presentations so that you feel pressured. Get started early and work consistently on your project.

You may never use others' words verbatim unless you actually quote the author. Even with a citation, verbatim use of others' words is plagiarism. Your goal is to become an expert on your subject and then tell a good "story" about the subject in your own words using referenced authority. Simply stringing together words written by others is not acceptable. Below are some statements from Mason.

#### MASON ACADEMIC INTEGRITY STATEMENT

GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask me for guidance and clarification.

#### **DIVERSITY**

Mason faculty are asked to keep diversity, one of the university's core values, in mind throughout the semester. Here is a link to the <u>Mason's Diversity Statement</u>.

#### **PRIVACY**

Student Privacy is governed by the <u>Family Educational Rights and Privacy Act (FERPA)</u> and is an essential aspect of any course. <u>Instructor responsibilities with respect to student privacy</u> are an important consideration when designing the syllabus, especially—though certainly not exclusively—when it comes to faculty and student digital communication. For that reason, students must use their Mason e-mail. As an employee of the state of Virginia, it is also required that faculty use Mason e-mail when communicating with students.

#### OTHER USEFUL CAMPUS RESOURCES:

Writing Center: A114 Robinson Hall; (703) 993-1200; http://writingcenter.gmu.edu

University Libraries "Ask a Librarian"

http://library.gmu.edu/mudge/IM/IMRef.html

Counseling And Psychological Services (CAPS): (703) 993-2380;

http://caps.gmu.edu

#### **UNIVERSITY POLICIES**

The University Catalog, <a href="http://catalog.gmu.edu">http://catalog.gmu.edu</a>, is the central resource for university policies affecting student, faculty, and staff conduct in university affairs.