2. Texas A&M University at Galveston

   a. New Courses

**MARB 404. Behavioral Ecology of Marine Mammals and Seabirds of New Zealand. (3-3). Credit 4.** Ecology and behavior of marine birds and mammals of the South Island, New Zealand, with comparisons to the literature of marine vertebrates; emphasis on animals in nature; experience of the animals from boats, shore, readings, videos, interpretation and peer-review, scientific papers, and books. Prerequisite: MARB 315 or other vertebrate or chordate course, junior or senior classification, or approval of instructor.

**MASE 221. Engineering Mechanics: Statics. (2-2). Credit 3.** General principles of mechanics; concurrent force systems; statics of particles; equivalent force/moment systems; centroids and center of gravity; equilibrium of rigid bodies; trusses, frames and machines; internal forces in structural members; moments of areas. Prerequisites: MATH 251 or MATH 253 or registration therein; PHYS 218; enrollment in MASL or MASE major degree sequence.
TEXAS A&M UNIVERSITY
AT GALVESTON
TAMUG
NEW COURSES
Texas A&M University
Departmental Request for a New Course
Undergraduate + Graduate + Professional
Submit original form and attach a course syllabus.

Attachment G

Form Instructions

1. Request submitted by (Department or Program Name): Marine Biology
   MARB 404 Behavioral Ecology of Marine Mammals and Seabirds of New Zealand

2. Course prefix, number and complete title of course: MARB 404

3. Catalog course description (not to exceed 50 words): Ecology and behavior of marine birds and mammals of the South Island, New Zealand, with comparisons to the literature of marine vertebrates; emphasis on animals in nature; experience of the animals from boats, shore, readings videos, interpretation and peer-review, scientific papers, and books

4. Prerequisite(s): MARB 315 or other vertebrate or chordate course, Junior or Senior classification, or approval of instructor
   Cross-listed with: MARB 604
   Stacked with: MARB 604
   Cross-listed courses require the signature of both department heads.

5. Is this a variable credit course? ☑ Yes ☐ No
   If yes, from ________ to ________

6. Is this a repeatable course? ☑ Yes ☐ No
   If yes, this course may be taken ________ times.
   Will this course be repeated within the same semester? ☑ Yes ☐ No

7. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

   BS in Marine Biology or Marine Fisheries

8. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

9. Prefix: MARB
    Course # 4 0 4
    Title (excluding punctuation) BEHAV E COL MAMM SEABIRD

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
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</table>

Approval recommended by:
Department Head or Program Chair (Type Name & Sign) Date

Chair, College Review Committee Date

Dean of College Date

Department Head or Program Chair (Type Name & Sign) Date (if cross-listed course)

Submitted to Coordinating Board by:
Chair, GC or UCC Date

Associate Director, Curricular Services Date

Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 3/10

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Behavioral Ecology of Marine Mammals and Seabirds of New Zealand
Texas A&M University MARB 404/604
Fall-Spring 2011-2012 Intersession
Meetings, research, or readings 8AM-8PM every day, 18-30 Dec. 2011

Lectures by Regents Professor Bernd Würsig
Labs by Jody Weir, MS, and Dave Lundquist, MS, with one or two extra Ph.D graduate assistant(s) to be named. Both Jody and Dave are also Ph.D. candidates.

Würsig Office Phone: 409-740-4413
E-Mail: wursigb@tamug.edu

Ecology and behavior of marine birds and mammals of the South Island, New Zealand, with the comparisons to the literature of marine vertebrates; emphasis on animals in nature; experience of the animals from boats, shore, readings, videos, interpretation and peer-review, scientific papers, and books.

Grading for undergraduates will be by evaluation of one mid-session exam (15%), one second-session exam (not cumulative, 25%), daily lecture quizzes (20%), and the lab, which also consists of developing your own research project (40%). Course prerequisites MARB 315 or some other vertebrate or chordate course, Junior or Senior classification, or approval of instructor.

Graduate students taking this course as MARB 604 will team with one to more (depending on relative numbers) of undergraduates, and help the undergraduates develop their own projects. In other words, every graduate student will also serve as a teaching assistant/mentor. Würsig will monitor this progress, and the graduate students will keep a separate research log of their mentoring activities, to be graded by Würsig.

Grading for graduate students will be by evaluation of one mid-session exam (15%), one second-session exam (not cumulative, 25%), daily lecture quizzes (20%), and the lab, which in the case of graduate students consists of participation and success of helping to mentor one to several undergraduates, as monitored by Würsig, and by grading upon verbal meetings (20%) with Würsig and grading of the separate research log of mentoring activities (also 20%, for a total of 40% for graduate mentoring of undergraduate research projects).

A=90-100
B=89-80
C=79-70
D=69-60
F=59-0

Learning Outcomes: The students will a) have an understanding of the diverse marine bird and mammal fauna of a southern hemisphere near-shore oceanic environment where deep waters
meet near-shore shallow areas, and provide a complex interaction of closely juxtaposed ecosystems; b) be able to extrapolate from the present study area to marine birds and mammals worldwide; c) have an understanding of anthropogenic factors affecting the animals, including underwater noise, fishing, tourism, near-shore habitat changes or degradation; d) begin to understand the different manner in which the New Zealand Department of Conservation relates to management and conservation activities from that of the U.S. National Marine Fisheries Service, and other protective agencies; e) understand how to formulate, conduct, and describe results of a basic short-term research project, and f) have a basic understanding of the indigenous Maori view of oceanic nature, and the settlers’ past of whaling, sealing, and birding.

Course Objectives: From the testable above learning outcomes, Würsig will ascertain that students have acquired enough knowledge and skills of marine birds and mammals and their diverse environments in order to understand the animals, their ecosystems, and the relative fragility of nature. As a secondary but important objective, knowledge of others’ views and past views of nature and place in nature will be obtained.

To apply for this Intersession course, contact Bernd Würsig: wursigb@tamug.edu, with your resume or CV, and a short paragraph or two of why you are interested in taking this course, and your undergraduate or graduate GPA. All in total confidence of course. Selections will take place as soon as possible in spring and summer 2011.

The required texts are 1) Encyclopedia of Marine Mammals, 2009, by Perrin, Würsig, and Thewissen; and 2) The Dusky Dolphin: Master Acrobat off Different Shores, 2010, by Würsig and Würsig. Both books are by Elsevier/Academic Press. Select readings, for both lecture and lab, will be available as handouts and by web.

Attendance Policy

Information concerning absences can be found in the University student rules Section 7. Please consult the university student rules for reasons for excused absences, detailed procedures and deadlines. http://student-rules.tamu.edu/rule07

American Disability Act

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. If you believe you have a disability requiring accommodation, please contact Dr. Rick Ertell Suite 104-Seibel Building (409) 740-4587. For additional information visit: http://disability.tamu.edu

Academic Integrity

An Aggie does not lie, cheat, or steal or tolerate those who do.”
http://aggiehonor.tamu.edu
## Behavioral Ecology of Marine Mammals and Seabirds of New Zealand

Syllabus of Classes and Labs (with field days on all possible weather days, usually >80%)

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td>Readings supplied; Encourage study on airplane to NZ</td>
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<tr>
<td></td>
<td></td>
<td>Intro. to cetaceans and marine birds – taxonomy/systematics</td>
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<td>Group living -- non-cetaceans</td>
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<td>Introduction to the Kaikoura environment</td>
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<tr>
<td>1</td>
<td>Dec. 18</td>
<td>Quiz 1</td>
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<td></td>
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<td>The Dusky Dolphin – A southern hemisphere semi-pelagic example</td>
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<td>Field trip to dusky dolphins, divided by boat and shore</td>
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<td>2</td>
<td>Dec. 19</td>
<td>Quiz 2</td>
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<td>Social strategies of dolphins socializing in day-time</td>
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<td>Mother-calf strategies of dusky dolphins close to shore</td>
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<td>3</td>
<td>Dec. 20</td>
<td>Quiz 3</td>
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<tr>
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<td>The Sperm Whale -- Social strategies off Kaikoura</td>
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<td>Sperm whales as a comparison worldwide</td>
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<td>Develop own research project; review with Würsig and graduate mentor</td>
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<td>4</td>
<td>Dec. 21</td>
<td>Quiz 4</td>
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<td>Other Whales of the southern hemisphere</td>
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<td>Baleen whale habitat use and environmental problems</td>
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<td>Present research proposal; critiques by colleagues</td>
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<tr>
<td>5</td>
<td>Dec. 22</td>
<td>Quiz 5</td>
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<td>Maori and white settler attitudes to the marine environment</td>
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<td>Whaling, habitat degradation, and other environmental concerns</td>
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<tr>
<td>6</td>
<td>Dec. 23</td>
<td>8-930 AM, Exam 1</td>
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<tr>
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<td>Personal research: conduct, questions and protocols</td>
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<tr>
<td>7-8</td>
<td>Dec. 24-25</td>
<td>Holiday break, with encouragement for conducting own research, and participating in local marine and other studies</td>
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<tr>
<td>Date</td>
<td>Day</td>
<td>Event</td>
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</tbody>
</table>
| 9     | Dec. 26| Quiz 6  
Comparative Studies -- Group Living  
Dusky dolphins and other marine mammals in different habitats |
| 10    | Dec. 27| Quiz 7  
Marine bird behavior, behavioral ecology, and conservation  
Culture as a consideration in conservation |
| 11    | Dec. 28| Quiz 8  
Review of society structure and culture  
Intelligence and cognition in homeothermic marine vertebrates |
| 12    | Dec. 29| Quiz 9; Exam #2/Study/Reading  
Research Presentation Day |
Texas A&M University

Departmental Request for a New Course

Undergraduate ▶ Graduate ▶ Professional
*Submit original form and attach a course syllabus.*

1. Request submitted by (Department or Program Name): DEPARTMENT OF MARITIME SYSTEMS ENGINEERING

2. Course prefix, number and complete title of course: MASE 221 ENGINEERING MECHANICS: STATICS

3. Catalog course description (not to exceed 50 words):

   General principles of mechanics; concurrent force systems; statics of particles; equivalent force/moment systems; centroids and center of gravity; equilibrium of rigid bodies; trusses, frames and machines; internal forces in structural members; moments of areas.

4. Prerequisite(s): MATH 251 or 253 or registration therein; PHYS 218; Enrollment in MASI or MASE major degree sequence.

   Cross-listed with: 

   Stacked with: 

   Cross-listed courses require the signature of both department heads.

5. Is this a variable credit course? [ ] Yes [x] No If yes, from ______ to _______.

6. Is this a repeatable course? [ ] Yes [x] No If yes, this course may be taken ______ times.

   Will this course be repeated within the same semester? [ ] Yes [x] No

7. This course will be:

   a. required for students enrolled in the following degree programs(s) (e.g., B.A. in History)

      B.S. in Maritime Systems Engineering

   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in Geography)

8. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

9. Prefix | Course # | Title (excluding punctuation)

   MASE | 221 | ENGINEERING MECHANICS: STATICS

   Lect. | Lab | SCH | CIP and Fund Code | Admin. Unit | Acad. Year | FICE Code

   02 | 02 | 03 | 14 | 22 | 01 | 01 | 06 | 18 | 15 | 12 | 13 | 0 | 1 | 0 | 2 | 9 | 8 |

   Approval recommended by: [Signature]

   Department Head or Program Chair (Type Name & Sign) Date

   Chair, College Faculty Committee Date

   Department Head or Program Chair (Type Name & Sign)
   (if cross-listed course) Date

   Dean of College Date

   Submitted to Coordinating Board by:

   [Signature]

   Associate Director, Curricular Services Date

   Chair, GC or UCC Date

   Effective Date
MASE 221 - Engineering Mechanics: Statics
Course Outline
Fall Semester 2012

Instructor: Bert Sweetman, Ph.D. PE
Associate Professor, MASE
Office: Engineering Building (PMEC), Room 216,
e-mail: sweetman@tamu.edu

Class Schedule: Tuesday PMEC 146 11:00-12:15
Thursday PMEC 146 11:00-12:15

Additional Reserved Time:
Tuesday PMEC 146 12:15-2:00
Thursday PMEC 146 12:15-2:00

Office Hours: Monday and Wednesday 9:30–10:30

Prerequisites: PHYS 218 (Mechanics)
MATH 251 or 253 or concurrent registration (Engineering Mathematics III)
Enrollment in MASE or MASL


Catalogue Description: General principles of mechanics; concurrent force systems; statics of particles;
equivalent force/moment systems; centroids and center of gravity; equilibrium of rigid bodies; trusses, frames, and machines; internal forces in structural members;
fraction; second moments of areas.

Goals: The principal goal of the course is to provide students with a fundamental understanding of engineering statics, which forms a basis for future learning in structural concepts. The basics of particle dynamics may also be introduced.

Computer Usage: Computer literacy is not mandatory for this class.
MASE 221 - Engineering Mechanics: Statics  
Course Outline  
Fall Semester 2012

Calculators:  
- **Homework:** There are no restrictions on calculator use during homework assignments; it will be helpful to have a pocket calculator capable of calculating vector dot-products and cross-products and solving matrix equations.
- **Exams:** Only those calculators listed as being acceptable for use on the Fundamentals of Engineering Exam may be used during exams in this class (http://www.ncees.org/Exams/PE_exam/Calculator.policy.php). The calculators allowable in exams are presently limited to: Hewlett Packard: HP 33s, HP 35s; Casio: FX 115 (all models); Texas Instruments: TI 30X (all models) TI 36X (all models).

Homework:  
- Students are encouraged to submit homework on the due date. Occasional late homework will be accepted without penalty. No homework will be accepted after the next assignment is distributed, and late submission of the last assignment before an exam will not be accepted.
- Students are encouraged to work on homework in small groups (not more than 4 students). Each student in the group must submit his or her own homework and must note on the assignment the names of the other students in the work group. A student who works alone is required to write a statement to that effect at the top of the assignment.

Grading:  
- **Homework:** 10%
- **Exam 1:** 15%
- **Exam 2:** 25%
- **Exam 3:** 25%
- **Final Exam:** 25%
- **Total:** 100%

Grading Scale:  
- 90% ≤ A
- 75% ≤ B < 90%
- 60% ≤ C < 75%
- 50% ≤ D < 60%
- F < 50%

The grading scale may be made less strict at the instructor’s sole discretion.
## MASE 221 - Engineering Mechanics: Statics
### Course Outline
Fall Semester 2012

### Schedule:

<table>
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<tr>
<th>Week*</th>
<th>Lecture Topic*</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction: Systems of Forces and Moments</td>
</tr>
<tr>
<td>2</td>
<td>Forces in Equilibrium in 2 and 3 Dimensions</td>
</tr>
<tr>
<td>3</td>
<td>Systems of Forces and Moments in 2 and 3 Dimensions</td>
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<tr>
<td>4</td>
<td>Objects and Structures in Equilibrium</td>
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<td>5</td>
<td>Forces, Moments and Structures in Equilibrium</td>
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<td>6</td>
<td>Trusses, Frames and Machines</td>
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<td>7</td>
<td>Centroids and Moments of Inertia</td>
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<td>8</td>
<td>Couples</td>
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<td>9</td>
<td>Rotated Moments, Distributed Loads</td>
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<tr>
<td>10</td>
<td>Indeterminant Structures, Structures in Equilibrium</td>
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<td>11</td>
<td>Structures and Frames</td>
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<td>12</td>
<td>Machines and Geometric Properties</td>
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<tr>
<td>13</td>
<td>Dynamics: Intro to Newtonian Methods</td>
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<tr>
<td>14</td>
<td>Dynamics: Intro to Energy-based Methods</td>
</tr>
</tbody>
</table>

*Subject to revision

### Absences:

Attendance will be taken on an as-needed basis. Assignments and exams may only be made up for excused absences. Students should make arrangements with the course instructor to make up any missed work or exams prior to an excused absence.

Information concerning official University policy on absences is contained in the University Student Rules Section 7. The University views class attendance as an individual student responsibility. All students are expected to attend class and to complete all assignments. Assignments and exams may only be made up for excused absences. Students should make arrangements with the course instructor to make up any missed work or exams prior to an excused absence. Please consult the University Student Rules for reasons for excused absences, detailed procedures and deadlines as well as student grievance procedures (http://student-rules.tamu.edu/rule07).
MASE 221 - Engineering Mechanics: Statics  
Course Outline  
Fall Semester 2012

Academic Dishonesty:  
For many years Aggies have followed a Code of Honor: “Aggies do not lie, cheat, or steal, nor do they tolerate those who do.” As such, it is the responsibility of students and faculty members to help maintain scholastic integrity at the University by refusing to participate in or tolerate scholastic dishonesty. The Aggie Code of Honor and the Scholastic Dishonesty sections in the TAMUG University Rules handbook will be the standard upon which scholastic integrity is maintained in this course. Students are responsible for familiarizing themselves with the standards, definitions, and procedures concerning academic dishonesty. The usual penalty for a first violation shall be an “F” in the course and “Honor Violation Probation.” Students should be aware that the violation of copying another student’s work and the violation of willfully allowing your own work to be copied are equivalent.

Students will be required to write and sign the following on examinations: “On my honor, as an Aggie, I have neither given nor received unauthorized aid on this exam.”

American Disabilities Act:  
The American Disabilities Act (ADA), a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please contact the Director of Counselling and each of your instructors immediately.

Family Educational and Rights to Privacy Act (FERPA):  
FERPA is a federal law designed to protect the privacy of educational records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. To obtain a listing of directory information or to place a hold on any or all of this information, please consult Admissions & Records Office.

Items that can never be identified as public information are a student’s social security number or institutional identification number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your confidentiality.
Course Objectives: The intent is that by the end of the course, students will be able to: [letters refer to the EC-2000 Criteria 3, below]

- Apply student’s knowledge of physics and math as a foundation for engineering mechanics [a,e,k]
- Provide students with a sound understanding of basic engineering statics [a,e,k]
- Consolidate students’ knowledge of properties of solids and planar geometric shapes [a,e,k]
- Provide students with a sound understanding of mechanics of materials [a,e,k]

EC-2000 (Criteria 3) Engineering programs must demonstrate that their graduates have:

a. an ability to apply knowledge of mathematics, science, and engineering;
b. an ability to design and conduct experiments as well as to analyze and interpret data;
c. an ability to design a system, component, or process to meet desired needs;
d. an ability to function on multidisciplinary teams;
e. an ability to identify, formulate, and solve engineering problems;
f. an understanding of professional and ethical responsibility;
g. an ability to communicate effectively;
h. the broad education necessary to understand the impact of engineering solutions in a global/societal context;
i. a recognition of the need for and an ability to engage in lifelong learning;
j. a knowledge of contemporary issues; and
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.