Graduate Council
May 5, 2011

New Courses Requests:

BIOL 609. Molecular Tools in Biology. (3-0). Credit 3. Interactive lecture course in molecular biology for beginning graduate students; introduces students to tools and methodologies used in prokaryotic and eukaryotic molecular labs; students will learn how to choose the appropriate experimental technique for a given scientific question; virtual experiments will reinforce the applications and introduce useful bioinformatics tools. Prerequisite: Graduate classification.

ENGR 600. Engineering Graduate Study abroad. (15-0). Credit 15. For students in approved study abroad and reciprocal educational exchange programs. Prerequisite: Graduate classification in engineering; admission to approved program abroad; approval of study abroad coordinator.

HORT 609. Plants for Landscape Design II. (3-2) Credit 4. Identification and use of indigenous and introduced landscape plants; plants for special uses in urban environments; emphasis on plants' ornamental attributes, cultural requirements, and adaptability in urban and suburban environments. Not open to students who have completed HORT 308. Prerequisites: HORT 201, HORT 306, BOTN 101, HORT 608, or approval of instructor.

OCNG 659. Ocean Observing Applications. (3-0). Credit 3. Conceptualization, design, and construction of oceanographic observing systems; practical experience with the Texas Automated Buoy System including system design, instrumentation setup and calibration, telecommunication systems, and data management. Prerequisites: MS or PhD in OCNG or related field by permission of instructor.

New Course Requests

A634

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 Biology

2. Course prefix, number and complete title of course: BIOL 609: Molecular Tools in Biology

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

Interactive lecture course in molecular biology for beginning graduate students; introduces students to tools and methodologies used in prokaryotic and eukaryotic molecular labs; students will learn how to choose the appropriate experimental technique for a given scientific question; virtual experiments will reinforce the applications and introduce useful bioinformatics tools.

4. Prerequisite(s): Graduate classification

Cross-listed with: _____ Stacked with: _____

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 programs(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)*
   P.h.D. and M.S. in biology and microbiology

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)
BIOL	609	Molecular Tools Biology

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code
03	00	03	0202040000	0440	12-13	003632

Level 5

Approval recommended by:

Department Head or Program Chair *(Type Name & Sign)* Date 3/28/11

Chair, College Review Committee Date 3/30/11

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

Dean of College Date 3/30/11

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

BIOL 609 Molecular Tools in Biology

Instructors:
Brian Perkins
BSBE 118C
bperkins@mail.bio.tamu.edu

Michael Benedik
BSBE 306C
benedik@tamu.edu

Class Time and Location: MWF, 11:10-12:00, BSBW 025

Course Description: This is a one-semester interactive lecture course in molecular biology for beginning graduate students. The course will introduce students to the tools and methodologies widely used in prokaryotic and eukaryotic molecular biology labs and provide background to many of their available applications. Students will learn how to choose the appropriate experimental technique for a given scientific question. Virtual experiments will reinforce the applications and introduce useful bioinformatics tools.

Grades: A total of 330 points will be available in the class:
10 homework assignments at 13 pts each = 130 pts
4 research papers of 50 pts each = 200 pts
Grading scheme: A=280-330; B=250-279; C = 220-249; D = 180-219; F < 180

Attendance: Attendance at every lecture is expected but not recorded.

Grade Release: Family Educational Rights and Privacy Act of 1974 (FERPA), does not permit faculty or staff to report grades by phone or e-mail. Grades will be available online via Vista/Blackboard. To access this site:

Log on to http://elearning.tamu.edu
Choose the **TAMU logon** option
Logon with your NetID and password (same as Neo)
Choose the appropriate course.

STATEMENT ON DISABILITIES: 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 of their disabilities. If you believe you have a disability requiring an accommodation, please contact the department of Student Life, Services for Students with Disabilities, in Room B-118 of Cain Hall, or call 845-1637.

ACADEMIC INTEGRITY:

"An Aggie does not lie, cheat, or steal, or tolerate those who do."

Academic misconduct, a violation of the Texas A&M Honor System, involves any of the following offenses: cheating, fabrication, falsification, multiple submissions, plagiarism, and complicity in any of these offenses. For explanations and examples of what constitutes academic dishonesty visit the Office of the Aggie Honor System homepage: http://www.tamu.edu/aggiehonor/

Date	Topic	Instructor
Week 1		
Aug 30	Recombinant DNA: chromosomes and genetic structure	Perkins
Sept 1	Properties of nucleic acids	Perkins
Sept 3	Review and discussion (Homework #1 Due) *Berget et al (1977) PNAS*	
Week 2		
Sept 6	Bioinformatics: Gene Analysis	Benedik
Sept 8	Bioinformatics: Database analysis and discovery tools	Benedik
Sept 10	Review and discussion (Homework #2 Due)	
Week 3		
Sept 13	Bacterial hosts and genotypes, common enzymes	Benedik
Sept 15	Subcloning, ligations, restriction maps	Benedik
Sept 17	Review and Discussion (Homework #3 due) *Cohen et al. (1972) PNAS*	
Week 4		
Sept 20	Plasmid vectors, replication and selections	Benedik
Sept 22	Recombination systems and outcomes	Benedik
Sept 24	Review and discussion (Homework #4 due) *Baba et al. Mol Syst Biol. 2006*	
Week 5		
Sept 27	Polymerase chain reaction (PCR) I – principles and primer design	Perkins
Sept 29	Polymerase chain reaction (PCR) II – RT-PCR and qPCR	Perkins
Oct 1	Review and discussion (Homework #5 due) *Matsunami and Buck (1997) Cell; Saiki et al (1985) Science*	
Week 6		
Oct 4	Libraries (BACs, PACs, YACs)	Benedik
Oct 6	Clone mutagenesis: site directed, random, directed evolution	Benedik
Oct 8	Review and discussion (Homework #6 due) *Karn J et al. PNAS (1980) ; Piccoli et al (1999) PNAS*	
Week 7		
Oct 11	Genetic mapping and positional cloning	Perkins
Oct 13	Microarrays	Tag
Oct 15	Review and discussion (Homework #7 due)	

Week 8

Oct 18	Sequencing and Next Generation sequencing	Benedik
Oct 20	Metagenomics	Benedik
Oct 22	Review and discussion (Homework #9 due) *Venter, J.C. et al. (2004) Science*	

Week 9

Oct 25	Loss of function strategies	Perkins
Oct 27	Gene targeting, insertional mutagenesis	Perkins
Oct 29	Review and discussion (Homework #8 due) *Thomas and Capecchi (1987) Cell*	

Week 10

Nov 1	Protein expression (prokaryotes)	Benedik
Nov 3	Gene fusions for expression studies and purification	Benedik
Nov 5	Review and discussion (Homework #10 due) *Gutierrez et al. (1987) Mol. Biol.*	

Week 11

Nov 8	Protein expression (eukaryotes)	Perkins
Nov 10	Cell culture and delivery systems	Perkins
Nov 12	Review and discussion (Homework #11 due)	

Week 12

Nov 15	Protein detection: antibody structure and western blotting	Perkins
Nov 17	Protein-protein interactions: yeast two hybrid and phage display	Perkins
Nov 19	Review and discussion (Homework #12 due) *Hodges et al (1988) Biochemistry*	

Week 13

Nov 22	Proteomics: Mass spec and protein identification	Lockless
Nov 24	XXX	
Nov 26	No class - Thanksgiving	

Week 14

Nov 29	Microscopy	Perkins
Dec 1	Fluorescence	Perkins
Dec 3	Review and discussion (Homework #13 due) *Ando et al (2002) PNAS; Tomura et al (2008) PNAS*	

Dec 6 Last day of class (redefined day)

AG 355

RECEIVED
MAR 3 1 2011
GRADUATE STUDIES

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)*: Dwight Look College of Engineering

2. Course prefix, number and complete title of course: ENGR 600 Engineering Graduate Study Abroad

3. Catalog course description (not to exceed 50 words):
For students in approved study abroad and reciprocal educational exchange programs

4. Prerequisite(s): Graduate classification in engineering; admission to approved program abroad; approval of study abroad coordinator

Cross-listed with: _____ Stacked with: _____

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

5. Is this a variable credit course? ☑ Yes ☐ No If yes, from 1 to 15

6. Is this a repeatable course? ☑ Yes ☐ No If yes, this course may be taken 2 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 programs(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)*
   All graduate degree programs in the Dwight Look College of Engineering

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)
ENGR	600	ENGR GRAD STUDY ABROAD

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code
15	00	15	309999999	09651	11-12	003632

Level: 6

Approval recommended by:

Robin Autenrieth Robin L Autenrieth 3/30/11
Department Head or Program Chair *(Type Name & Sign)* Date

Robin Autenrieth Robin L Autenrieth 3/30/11
Chair, College Review Committee Date

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

Robin Autenrieth Robin L Autenrieth 3/30/11
Dean of College Date

Submitted to Coordinating Board by:

_____
Chair, GC or UCC Date

_____ _____ _____
Associate Director, Curricular Services Date Effective Date

TEXAS A&M UNIVERSITY

March 30, 2011

MEMORANDUM

TO: **Sandra Williams**
Associate Director, Curricular Services

THROUGH: **Dr. Karen Butler-Purry**
Associate Vice President, Office of Graduate Studies

THROUGH: **Dr. David Reed**
Chair, Graduate Council

FROM: for **Dr. Robin Autenrieth**
Chair, Graduate Instruction Committee
& Associate Dean for Graduate Programs
Dwight Look College of Engineering

SUBJECT: **New Course Request – ENGR 600: Engineering Graduate Study Abroad**

To accommodate all graduate students in the Dwight Look College of Engineering who participate in reciprocal educational exchange programs (REEPs), we would like to request a new graduate course at the college level. ENGR 600 "Engineering Graduate Study Abroad" will act as a holding course for REEP students when they study abroad.

Attached you will find the new course request form. Thank you for your consideration of this request.

204 Zachry Engineering Center
3127 TAMU
College Station, TX 77843-3127

Tel. 979.845.7200
Fax 979.847.8654
essap.tamu.edu

TEXAS A&M ENGINEERING

Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional

• Submit original form and attach a course syllabus.•

RECEIVED
MAY 09 2011
GRADUATE STUDIES

Form Instructions

1. Request submitted by *(Department or Program Name)*: Department of Horticultural Sciences

2. Course prefix, number and complete title of course: HORT 609 Plants for landscape Design II

3. Catalog course description (not to exceed 50 words): Identification and use of indigenous and introduced landscape plants; plants for special uses in urban environments; emphasis on plants' ornamental attributes, cultural requirements, and adaptability in urban and suburban environments. Not open to students who have completed HORT 308

4. Prerequisite(s): HORT201, HORT306, BOTN 101, HORT 608, or approval of instructor.

   Cross-listed with: _____ Stacked with: HORT 308

   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 programs(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)*
   M.Ag., M.S., Ph.D. in Horticulture and MLA in Landscape Architecture

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)
HORT	609	PLNTS FOR LAND DESIGN II

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code
03	02	04	0106010005	152	12-13	003632

Level: 6

Approval recommended by:

Dr. Tim Davis 5-2-11
Department Head or Program Chair *(Type Name & Sign)* Date

David W Reed
Chair, College Review Committee Date

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

Dr. David Reed
Dean of College Date

Submitted to Coordinating Board by:

Mark Zoran
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.

HORT 609 PLANTS FOR LANDSCAPE DESIGN II
Course Syllabus, Spring 2012

Instructor: Dr. Michael Aloysius Arnold (http://aggie-horticulture/faculty/arnold.html)
Lecture: HFSB 102, Monday and Wednesday, 11:30 AM - 12:20 PM, stacked with HORT 308
Laboratories: One of five available laboratory times at the *Nursery/Floriculture Field Lab should be arranged immediately at the start of classes. Available times are Tuesday 10:00AM - 12:00PM, Tuesday 1:00PM - 3:00PM, Tuesday 3:00PM - 5:00PM, Wednesday 1:00PM - 3:00PM, or Wednesday 3:00PM-5:00 PM.

*Note that most laboratory sessions will meet in temporary classrooms at the TAMU Horticultural Gardens. However, laboratories may meet in several locations including HFSB (see a campus map) and FSLB on some occasions. Laboratory locations will be announced in preceding lectures or laboratory sessions. These alternative laboratory locations are necessary for students to obtain first hand observations of live plant specimens. If no location is announced students should report to the Nursery/Floriculture Field Lab at the TAMU Horticultural Gardens for that week's laboratory.

Offices and telephone numbers:

Dr. Michael Arnold, HFSB 207, 845-1499, Home telephone number is 690-0265, ***emergencies only***, not after 8:00 PM nor before 7:00 AM.

Messages:

Messages may be left in Dr. Arnold's or the lab instructor's mailboxes in HFSB 201, 979-845-1499, or via email for Dr. Arnold at ma-arnold@tamu.edu.

Office Hours:

Office hours for Dr. Arnold will be held for one hour prior to each lecture, 10:30 AM - 11:30 AM Monday and Wednesday, or by appointment (979-845-1499 or ma-arnold@tamu.edu).

Course Description:

HORT 609. Plants For Landscape Design II. (2-2). Credit 3. II. Identification and use of indigenous and introduced landscape plants; plants for special uses in urban environments; emphasis on plants' ornamental attributes, cultural requirements, and adaptability in urban and suburban environments. Prerequisite: HORT 201, HORT 306, BOTN 101, HORT 608, or approval of instructor. Not open to students who have completed HORT 308.

Course Objectives: Students will be expected to develop understanding and skill in the following areas:

(1) Identification of selected landscape plant species on the basis of leaf, stem, fruit, flower, dormant twig, bark and whole plant characteristics.
(2) Ecological roles of selected plants in cultivated landscape environments.

(3) Basic knowledge of ornamental characteristics and environmental adaptability of important native and introduced plant species relating to their use in specific landscape situations.
(4) Correct usage of scientific names and terminology to describe plant taxa.
(5) Develop a working knowledge of potential limitations and hazards associated with the use of certain plant species in the landscape.
(6) Ability to obtain cultural and descriptive information on plant materials from literature and human resources.
(7) Ability to incorporate appropriate plants into landscape designs to maximize the chances for achieving the desired design goals within the environmental constraints of varied sites.

Lecture:

No electronic devices (laptop computers, palm pilots, raspberries, translators, calculators, cell phones, etc.) may be used during any lectures, exams, quizzes, or laboratory quizzes unless specifically requested in advance by student services on the student's behalf or approved by the instructor.

Examination Procedures:

Course grade:

Each student's grade will be based on a total of 3000 points for the semester. A standard grading scale will be utilized. However, the instructor reserves the right to curve individual exam or course grades upward if an individual or the class performance warrants such action. In no case will the curving of grades result in a worse grade than was earned using the standard scale enumerated herein. Do not count on a curved grading scale for the course. After teaching plant materials courses for over fifteen years, the instructor has curved only three exams. In order for an individual grade to be considered for curving up to the next highest grade, a student must be within 1% (30 points) of the next highest grade and have not missed more than two labs and/or lectures (as evidenced by missed examinations, lecture quizzes, lab quizzes, or bonus point opportunities). If the student has missed more than two labs and/or lectures, then their grade will not be eligible for curving up. This will apply to both excused and unexcused absences.

Each student's grade will be based on a total of 3000 points for the semester. A standard grading scale will be utilized. The tentative grading scale for the course is:

2700 (90%) to 3000 points (100%) = A
2400 (80%) to 2699 points (89%) = B
2100 (70%) to 2399 points (79%) = C
1800 (60%) to 2099 points (69%) = D
0 (0%) to 1799 points (<60%) = F

Point breakdown by grading testing instrument:

Instrument	Points	Approximate % course total
Lecture exam I	250	8.3 %
Lecture exam II	250	8.3 %
Lecture quizzes (10 quizzes)	200 (20 each)	6.7 %
Lecture final	500	16.7 %

Lecture subtotal	*1200*	*40.0 %*
Proposal for individual project	100	3.3 % (graduate course only)
Individualized application project	200	6.7 % (graduate course only)
Field trips	300	10.0 % (graduate course only)
Recitation subtotal	*600*	*20.0 %*
Laboratory quizzes (9 of 11 required)	900 (100 each)	30.0 %
Laboratory final	300	10.0 %
Laboratory subtotal	*1200*	*40.0 %*
Course total	*3000*	*100 %*

Lecture:
Lecture Exams:

Lecture exams will emphasize ornamental/horticultural information concerning growth habit, ecological considerations, ornamental and cultural attributes, origin, availability and commercial value and use of selected plant taxa in the landscape. Lecture exams will encompass materials presented in lecture, reading assignments in the textbook or from the class website, and handouts. Students are expected to have read the sections of the required text relating to the topics and species covered in lecture. Weekly plant lists will be provided as handouts in lecture or posted on the class website (http://aggie-horticulture.tamu.edu/syllabi/308/home/frameset.htm). All taxa covered will be fair game for the lecture exams. Only the indicated taxa for laboratories (about 20 new taxa will be added each week to the cumulative total) will be covered on laboratory identification quizzes. Lecture exams will be cumulative, but emphasize the material covered since the previous exam. Lecture exams and the lecture final will consist of multiple choice, fill in the blank, lists of requested information, true/false, matching, labeling, design suggestions and/or short essay questions. The lecture final will generally be more comprehensive in nature than the first two lecture exams. ***No cell phones, computers, translators, or other electronic devices are allowed during any lecture or lab examination or quiz. All work is expected to be independent, no group work is allowed unless expressly permitted by the instructor.***

Three lecture exams will be given on the tentative dates indicated below:
Exam 1 = 250 points. Monday, February 21, 2011, in class.
Exam 2 = 250 points. Monday, April 4, 2011, in class.
Final = 500 points. Wednesday, May 11, 2011, 10:30 AM - 12:30 PM.

Lecture Quizzes and Take-Home Assignments:

Past tracking of students' attendance at lecture and their performance on exams consistently indicated that good attendance tended to equate with good exam scores. Hence, ten unannounced quizzes and / or short take-home assignments will be made at the instructor's discretion during the semester. Each quiz / assignment will be worth 20 points each (200 total points for the ten quiz / assignments) toward the final semester point total. Students must be present to take the quiz or personally hand in the assignment. Students are not permitted to take extra copies of, or make copies of, take home assignments for fellow

students who are not present during the day the assignment or quiz was made. Take-home assignments must be turned in at the beginning of the next lecture (or other date and time as specified by the instructor). ***Late quizzes and assignments will not be accepted unless a university excused absence is provided.*** Quizzes will be based on questions from the previous lectures, assigned readings, or students will be asked to apply acquired skills and knowledge in problem solving scenarios. Assignments will be made that will enhance information gathering skills, incorporate current events into the course, or integrate plant materials use with landscape / interiorscape design concepts. A medical excuse, as defined in the university handbook, or a field trip or function that is a university approved absence are required to avoid zero points on missed quizzes or assignments. ***All work is expected to be independent, no group work is allowed unless expressly permitted by the instructor.***

Individualized Application Project:

In addition to the undergraduate requirements for the corresponding stacked course HORT 308, each student in HORT 689 will be required to complete a two phased individualized application project. These projects are designed to either enhance the student's skills in practical large scale applications of the skills acquired in the course related to specification of plants for landscape designs or to permit students to develop additional expertise in communicating an in-depth information learned through literature searches or research efforts related to specific landscape plant materials topics. Examples would include such projects as, developing a detailed planting design and plants specifications for a large scale landscape design project (for example a planting design level plans and materials specifications for all or a large portion of an MLA student's thesis design project), or the development of an extension bulletin or similar type of outreach educational materials for publication (after internal department review) on an in-depth landscape design or plant materials topic. Such topics will be selected on an individual basis with the student in consultation with the instructor. A preliminary proposal outlining the specific topics to be included in the project will be required before each student begins their project. This proposal will be worth 100 points toward the final course grade and must be completed prior to the first lecture exam. The project worth 300 points toward the final course grade will be due by Friday of the last full week of classes for the semester, but students are encouraged to complete it prior to this date.

Field Trips:

In addition to the undergraduate requirements for the corresponding stacked course HORT 308, each student in HORT 689 will participate in two all day immersion field trips which will be organized for two Fridays in the semester. The finalized dates for the field trips will be announced early in the semester to allow students to coordinate the dates with their other course responsibilities. If an unavoidable course conflict arises, the student is responsible for notifying the instructor well in advance of the date. In such case, a fully referenced term paper (12 pt double spaced text with no more than 1 inch margins) of at least 10 pages in length (not including the bibliography) on a suitable substitute topic will be assigned in place of the field trip and due prior to or upon the day of the field trip. In the case of illness, a medical doctor's excuse will be required by class the Monday following the field trip and the term paper will be due one week after the field trip. Participation in each field trip will count 100 points toward the final grade (300 points total for the three field trips).

Laboratory:
Announced Quizzes:

Eleven weekly plant identification quizzes will be given beginning the second week of classes. Each quiz will be worth 100 points. Each individual's best 9 quizzes (of 11 possible) will count toward

the final grade. The two dropped quiz grades are to allow for the possibility of an absence during a laboratory quiz, whether the absence is excused or not. Unexcused absence during a quiz will result in zero points for that quiz. Excused absences in excess of the two drop quizzes must be obtained prior to the quiz or an official medical doctor's excuse from the student health center on campus will be required to be presented to the course instructor (Dr. Arnold) within 24 hours of the quiz. If additional excused absences are approved, the 900 point total for quizzes will be based on the average performance achieved on those quizzes that were taken. Prorated quiz grades will be assigned for students only if there have been three or more excused absences for laboratory quizzes. If more than four total excused or unexcused quizzes are missed, an incomplete may be assigned for the course at the instructor's discretion.

The first quiz will test your knowledge of the correct writing of scientific and common names of plants and identification of morphological traits of plants discussed in the initial laboratory and assigned lecture readings. Each of the succeeding quizzes will consist of 10 plants or cuttings (10 points per plant). Students will be expected to know the scientific (family, genus, specific epithet, and subtaxa if covered; 8 points) and common name (2 points) of each plant species (10 points total). Each misspelled word will count one point off. Leaving off appropriate punctuation (single quotes, hyphens, periods, etc.) counts as a spelling error.

Bonus plants may be added to quizzes at the discretion of the laboratory instructors, if in their judgment adverse weather conditions or other factors have made identification of the regular 10 plants or cuttings difficult. Bonus plants can only be used to increase students' quiz totals, not decrease them. *Note that the same species/cultivar may occur more than once on a given quiz.* ***Quiz material is cumulative throughout the semester.*** In addition to the names of plants that we have formally covered in laboratories, bonus questions may include family names or the genus name for a closely related species to those that we have formally studied in laboratory.

Laboratories and quizzes will be held rain or shine, so dress appropriately and bring pencils (ink will run if wet). Cuttings and/or potted specimens of the species covered for the week will be placed in the temporary classroom at the TAMU Horticulture Gardens prior to the first laboratory each week. These specimens will be retained in the classroom or the greenhouse at the gardens for the remainder of the work week and one additional work week (assuming the specimens remain intact). After this time students will need to go to the greenhouse, nursery or landscape locations of the specimens to study them or access the plant images on the Plant Picture Pages section of the class website. Laboratory instructor's decisions on laboratory quizzes are final. Print legibly (print, no script), illegible answers count as incorrect answers.

Schedule of Topics: Note, some topics will not require full weeks to cover.

General terminology and definitions
Plant hardiness or adaptability
Plant development and genetic variation impacting landscape plant selection
Using plant textures, forms, and colors in landscape designs
Tropical and subtropical plants
Cacti, succulents and related taxa
Ornamental grasses, turfgrasses, and grass relatives
Geophytes (bulbs, corms, turbers, and rhizomes)
Groundcovers
Cool season annuals
Vines
Transition season annuals
Warm season annuals
Herbaceous perennials
Water garden and wetland plants
Additional plant selection, installation, and design issues

Laboratory grading for scientific and common names on laboratory quizzes:
Each plant is worth 10 points, which are awarded as follows:

Straight species;

Aceraceae	*Acer rubrum*			Red Maple
1	4	3		2

Subspecies, variety, or forma of a species;

Bignoniaceae	*Chilopsis linearis* subsp. *arcuata*			West Texas Desert Willow
1	4	2	1	2
Malvaceae	*Malvaviscus arboreus* var. *mexicanus*			Giant Turk's Cap
1	4	2	1	2
Caprifoliaceae	*Viburnum plicatum* f. *tomentosum*			Doublefile Viburnum
1	4	2	1	2

Cultivar of a species;

Bignoniaceae	*Chilopsis linearis* 'Dark Storm'			Dark Storm Desert Willow
1	4	2	1	2

Cultivar of a subspecies, variety or forma;

Fabaceae	*Gleditsia triacanthos* var. *inermis* 'Skyline'				Skyline Thornless Common Honeylocust
1	4	1	1	1	2

Common names must include all words in the common name in the correct order to receive credit for the common name.
One point will be deducted for each misspelled word, total points will not go below zero.
Leaving out the "×" on intergeneric hybrids, "x" on intrageneric hybrids, or single quotation marks on cultivars counts as a 1 point spelling error each.
Leaving out the subtaxa designations ("subsp.", "var.", or "f."), or indicating them improperly, counts as a 1 point spelling error.

Laboratory Final:

The lab final will each consist of 30 potted plants or cuttings, with each plant being graded as described on the quizzes. The lab final will be worth 300 points toward the final grade. The lab final will be given during the last regularly scheduled lab periods. Decisions on the lab final by the laboratory instructors are definitive. Be aware that the laboratory final will likely include a greater proportion of the plants from the last few plant lists than from the first ones as these latter lists contain the material that has not been as thoroughly tested at that time.

Laboratory final exams will be given on the tentative dates indicated below:
Final = 300 points. Tuesday April 26 or Wednesday April 27, 2011, during lab period.

A635

Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional

• Submit original form and attach a course syllabus.•

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GRADUATE STUDIES

Form Instructions

1. Request submitted by *(Department or Program Name)*: College of Geosciences

2. Course prefix, number and complete title of course: OCNG 659: Ocean Observing Applications

3. Catalog course description (not to exceed 50 words): Conceptualization,design, and construction of oceanographic observing systems; Practical experience with the Texas Automated Buoy System including system design, instrumentation setup and calibration, telecommunication systems, and data management.

4. Prerequisite(s): MS or PhD in OCNG or related field by permission of instructor

Cross-listed with: NA Stacked with: NA

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 programs(s) *(e.g., B.A. in history)*
   MS or PhD student in the College of Geosciences
   b. an elective for students enrolled in the following degree program(s) *(e.g., M.S., Ph.D. in geography)*
   MS or PhD student in the College of Geosciences

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)
OCNG	659	OCEAN OBSERVING APPLICAT

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code	Level
03	00	03	4006070002	21401	11-12	003632	

Approval recommended by:

Department Head or Program Chair *(Type Name & Sign)* — Date: 4.14.11

Chair, College Review Committee — Date: 4/13/11

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

Dean of College — Date: 4/13/11

Submitted to Coordinating Board by:

Chair, GC or UCC — Date

Associate Director, Curricular Services — Date — Effective Date

COURSE SYLLABUS

OCNG 659: OCEAN OBSERVING APPLICATIONS

Fall 2011
Days: TBA, Room: TBA, Time: TBA
TTVN to Galveston Campus (GAL) (if interest allows)

Credit Hours: 3

Instructor:

Dr. Norman Guinasso
979-862-2323 ext. 114
Guinasso@tamu.edu

Objective:

To provide practical and hands-on training of oceanographic instrumentation setup, deployment, and recovery. Particular emphasis on time series applications and real-time systems.

Course description:

The course is designed to instruct the student to conceptualize, design, and construct observational oceanographic systems. The student progresses from instrumentation setup and calibration, through moored or floating system design, to the construction and use of telecommunication systems to report observations in real time. The course intends to provide practical and hands-on experience by using an existing ocean observing system, the Texas Automated Buoy System, as a training ground. The student is required to design and implement a class project for credit. At least one field trip will be made to service oceanographic instrumentation.

Prerequisites:

Graduate level.

Grading:

The student will be graded on a semester project relating to ocean observing systems and a written midterm and final exam. Weighting is (50% project, 25% midterm, and 25% final). Grades will be based on the following grading system: 90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D, <60=F.

Attendance in class is expected. Excused absences will be granted based on University Policies as set forth in the student rules.

Course Topics/Calendar:

Operation

Week 1. Introduction to Oceanographic instrumentation
Week 2. Digital Data and Instrumentation Setup

Week 3. Calibration and Refurbishment
Week 4. Binary to ASCII; Data extraction

System Design and Construction

Week 5-6. Mooring materials and design
Weeks 7-8. Buoy design and testing

Communications (Linking instruments with telecomm)

Week 9-10. Telephone Communication Systems
Week 11. Underwater Modems
Weeks 12-13. Satellite communication

Real-time Systems

Week 14. Real-time Quality control procedures & Real-time data dissemination

List of assignments: Weekly reading assignments.

Date		Title	Reading Assignment
Week 1	1	Introduction to Ocean Instrumentation	Data Acquisition and Recording Emory and Thompson Ch 1
Week 2	2	Introduction to Ocean Instrumentation	Data Acquisition and Recording Emory and Thompson Ch 1
	3	Digital Data and Instrumentation Setup	SEASOFT V2: Seasave V7 CTD Real-Time Data Acquisition Software
Week 3	4	Digital Data and Instrumentation Setup	CTD data processing
	5	Digital Data and Instrumentation Setup	Acoustic Doppler Current Profiler Principles of Operation: A Practical Primer
	6	Digital Data and Instrumentation Setup	ADCP Underway data acquisition VMDAS, PLAN ADCP
Week 4	7	Instrument Calibration and Refurbishment	Instrument Manuals
	8	Instrument Calibration and Refurbishment	Instrument Manuals
Week 5	9	Data Extraction, Binary to Ascii	Instrument Manuals
	10	Buoy Design	Book, Berteaux, Coastal Ocean Buoy Engineering, 1991
Week 6	11	Buoy Design	Book, Berteaux, Coastal Ocean Buoy Engineering, 1991
	12	Exam	xxx
Week 7	13	Mooring Design and Deployment	Mooring Design and Dymanics Users Guide: A Matlab Package, Dewey

	14	Mooring Design and Deployment	Mooring Design and Dynamics Users Guide: A Matlab Package, Dewey
Week 8	15	TABS Buoy Design	TABS Buoy Design- - Bender at al, 2007 and other papers
	16	Data Systems	Tabs Buoy Data Systems, One shore Infrastructure, Buoy Computers
Week 9	17	Data Systems	Tabs Buoy Data Systems, One shore Infrastructure, Buoy Computers
	18	Data Communication Systems	ARGOS, Globalstar, NOAA GOES and other materials, papers and handouts
Week 12	19	Real Time Systems, Shore based data management	Tabs system descriptive materials Handout
	20	Real Time Systems, Shore based data management	Tabs system descriptive materials Handout
Week 13	21	Real Time Systems, on line data bases	Tabs system descriptive materials Handout
	22	Real Time Systems, Automated Data Dissemination	Tabs system descriptive materials Handout
Week 14	23	Real Time Systems	Tabs system descriptive materials Handout
Final Exam	24	Exam	xxx

Textbook:
Oceans 2020: Science, Trends, and the Challenge of Sustainability (Paperback) by Intergovernmental Oceanographic Commission, International Council of Scientific Unions Scientific Committee on Ocean Research, John G. Field (Editor), Gotthilf Hempel (Editor), C. P. Summerhayes (Editor)

Coastal and Oceanic Buoy Engineering, Henri O. Berteaux, Published by H. O. Berteaux, P.O. Box 182, Woods Hole, MA 02543.

Mooring Design & Dynamics Users Guide: A Matlab® Package for Designing and Analyzing Oceanographic Moorings and Towed Bodies, Richard K. Dewey, online html guide.

Selected equipment manuals and reprints.

Resources:
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 of their disabilities. If you believe you have a disability

requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

Copyright and Plagiarism Policy

All materials generated for this class are copyrighted. These materials include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets, Because these materials are copyrighted, you do not have the right to copy the handouts, unless permission is expressly granted.

As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, *even if you should have the permission of that person*. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without with research cannot be safely communicated.

If you have any questions regarding plagiarism, please consult the latest issue of the *Texas A&M University Students Rules*, student-rules.tamu.edu, under the section "Scholastic Dishonesty."

Know the Code. Aggie Code of Honor:
http://www.tamu.edu/aggiehonor/