

Course Changes

Texas A&M University Departmental Request for a Change in Course Undergraduate ♦ Graduate ♦ Professional

• Submit original form and attachments •

1. Request submitted by (*Department or Program Name*): Department of Ecosystem Science and Management
2. Course prefix, number and complete title of course: ESSM 601 Ecosystem Stewardship

Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below.

3. Change requested
- a. Prerequisite(s): From: N/A To: _____
- b. Withdrawal (reason): _____
- c. Cross-list with: N/A

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

- d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
- e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. **Attach a course syllabus.**
4. For informational purposes only, please indicate course number if this course will be stacked: _____

5. Complete current course title and current catalog course description:

601. Current Issues in Ecosystem Science and Management. (2-0). Credit 2. Introduces the social and scientific context for forestry; develops an understanding of current social, economic and environmental issues confronting forested ecosystems and consider implications for renewable natural resource management, research and policy. Prerequisite: Graduate classification.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

601. Ecosystem Stewardship. (2-0). Credit 2. Integrates ecological concepts of resilience, sustainability, transformation and vulnerability within a framework of ecosystem stewardship to support human well-being in a rapidly changing world; emphasizes social-ecological systems, adaptive management, and valuation of ecosystem services as mechanisms to strengthen management and policy recommendations supporting ecosystem stewardship. Prerequisite: Graduate classification.

7. a. As currently in course inventory:

Prefix	Course #	Title (excluding punctuation)											
E S S M	6 0 1	C u r r e n t I s s u e s i n E S S M											
Lect.	Lab	SCHE	CIP and Fund Code				Admin. Unit	ECE Code				Level	
0 2	0 0	0 2	0 3	0 5	0 6	0 0	0 5	0 8	4 1	0 0	3 6	3 2	6

- b. Change to:

Prefix	Course #	Title (excluding punctuation)													
E S S M	6 0 1	E c o s y s t e m S t e w a r d s h i p													
Lect.	Lab	SCHE	CIP and Fund Code				Admin. Unit	Acad. Year	ECE Code				Level		
0 2	0 0	0 2	0 3	0 5	0 6	0 0	0 5	0 8	4 1	1 2	- 1	3 0	0 3	6 3	2

Approval recommended by:

Dr. Steve Whisenant 12-20-11 Dr. David Reed 11/18/12
 Department Head or Program Chair (Type Name & Sign) Date Chair, College Review Committee Date

S. Whisenant 12-20-11 Dr. David Reed 11/18/12
 Department Head or Program Chair (Type Name & Sign) Date Dean of College Date
 (if cross-listed course)

Submitted to Coordinating Board by:

Dr. Mark Zoran 1/25/12
 Chair, GC of UCC Date

Associate Director, Curricular Services

Date

Effective Date

**ECOSYSTEM STEWARDSHIP
ESSM 601
FALL 2012**

OBJECTIVES:

Investigate the ecological concepts of resilience, sustainability, ecosystem services, and vulnerability to assess and manage unprecedented change within the biosphere. These concepts will be integrated within a framework of resilience-based stewardship to inform and guide ecosystem management for the benefit of society. Linkages among social and ecological system components will be emphasized and their contribution to sustainability and continued provisioning of ecosystem services will be investigated. Integration of multiple knowledge sources from various stakeholders will be evaluated as the basis for adaptive management. Complex and rapid changes within the earth system require that novel conceptual frameworks, experimental methodologies, and social institutions be developed and implemented to support sustainability.

LEARNING OUTCOMES:

Completion of this course will enable students to achieve the following outcomes:

- Achieve greater insight into the concepts of resilience, sustainability, ecosystem services, and vulnerability.
- Describe the importance of social-ecological systems to sustainability and continued provisioning of ecosystem services.
- Appreciate the need for novel approaches and methodologies to meet future challenges associated with ecosystem stewardship.
- Understand how resilience-based management may increase the capacity of social institutions, economies and ecosystems to address change.
- Learn how to apply and interpret sustainability and resilience-based management in diverse ecological and social systems.
- Identify the varied skill sets that are essential to develop and implement sustainability and resilience-based management.

INSTRUCTORS:

Dr. David D. Briske
Ecosystem Science and Management
Animal Industries Bldg, Rm 328
Phone: 979-845-5581
Email: dbriske@tamu.edu

Social Scientist
To Be Named

MEETING TIME AND LOCATION:

Tuesday and Thursday 11:10 am – 12:25 pm

TEXT AND READING ASSIGNMENTS:

Principles of Ecosystem Stewardship: Resilience-based Natural Resource Management in a Changing World. 2009. [eds.] Chapin F.S. III, Kofinas, G.P. and Folke, C. Springer Science. Journal papers will also be assigned for each subject matter section on elearning.

PREREQUISITES:

REN205 or an equivalent ecological background.

EVALUATION PROCEDURES:

Evaluation will be based on a combination of exams, take-home assignments, and class participation. Exams will consist of definition, short-answer, and essay questions. Take-home assignments will require interpretation, synthesis and application of information addressed in lectures, the text, assigned readings, and class discussions to an actual or hypothetical ecosystem stewardship scenario. Assignments will include a **Research Review** that requires students to develop a written critic of a recent peer-reviewed scientific paper addressing a major issue in ecosystem stewardship and a **Reflective Essay** in which students will synthesize and evaluate their class experience. Students will be expected to read assigned material **before** each class period and actively participate in class discussions.

Mid-term Exam	100 points
Final Exam	100 points
Take-home Assignments (2)	200 points
Class Participation	<u>50 points</u>
Total Points	450 points

GRADE DISTRIBUTION:

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

MAKE-UP EXAMINATIONS AND LATE ASSIGNMENTS:

Make-up examinations and late assignments will be accepted only when students present a documented University-excused absence within 1 week of the scheduled exam or assignment (see TAMU Regulations).

ATTENDANCE:

Regular class attendance is expected and will be considered a component of class participation. Experience indicates that those students who attend class consistently attain the highest performance.

AMERICANS WITH DISABILITIES ACT

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. This legislation requires that students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. Contact the Department of Student Life in Room B118 in Cain Hall (845-1637) for information.

ACADEMIC INTEGRITY STATEMENT

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

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System.

**ECOSYSTEM STEWARDSHIP
COURSE SYLLABUS
ESSM 601**

I. Challenges to Sustainability

1. Human population growth
2. Climate change
3. Increasing GDP
4. Natural resource depletion
5. Human well-being

II. Ecosystem Services

1. Supporting
2. Provisioning
3. Regulating
4. Cultural

III. Ecosystem Resilience

1. Thresholds and alternative states
2. Fast vs slow variables
3. Feedback mechanisms
4. Early warning signals

IV. Resilience-based Management

1. Vulnerability
2. Adaptability
3. Resilience
4. Transformability
5. Protocols for implementation

V. Social-ecological Systems

1. Drivers, controls and feedbacks
2. Economic systems
3. Political and regulatory systems
4. Integrated system models

VI. Adaptive Co-management

1. Adaptive management
2. Knowledge sources
3. Partnerships and incentives
4. Adaptive governance

VII. Case Studies and Applications

1. Evidence-based conservation programs
2. Chinese pastoral systems
3. USDA rangeland conservation guidelines

VIII. Navigating Transformations

1. Challenges and opportunities
2. Professional skill sets
3. Initial transformations

December 19, 2011

Dr. Steve Whisenant, Professor and Head
Department of Ecosystem Science and Management
Horticulture/Forest Science Building, Room 305
2138 TAMU
College Station, TX 77843-2138

Dear Dr. Whisenant,

I am seeking changes to ESSM 601 Ecosystem Stewardship, formerly Current Issues in Ecosystem Science and management. Specifically, this entails a new course title, adjusted course description and switch in semester taught. These changes are detailed in the attached document, which includes the change in course form and proposed syllabus.

These course changes are requested to reflect the rapid advances that have taken place in this subject matter area in the past decade. Development of additional content, including terminology, concepts, case studies and recently a textbook, provides an opportunity to shift the course from that of a survey to a more in-depth interpretation and assessment of ecosystem stewardship.

Regards,



David Briske

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