Course Change Request

Viewing: ALEC 601: Advanced Methods in Agricultural Education

Last approved: 02/24/18 3:29 am
Last edit: 09/25/18 4:01 pm
Changes proposed by: awinterrowd

Catalog Pages referencing this course
ALEC - Ag Leadshp, Ed. & Comm
Department of Agricultural Leadership, Education, and Communications

Programs referencing this course
CERT-CG64: Advanced Pedagogy in Agriculture - Certificate

Faculty Senate Number FS.35.102

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashley Winterrowd</td>
<td><a href="mailto:awinterrowd@tamu.edu">awinterrowd@tamu.edu</a></td>
<td>9794580390</td>
</tr>
</tbody>
</table>

Rationale for Course Edit
The proposed changes are part of a routine curriculum review.

Course prefix ALEC
Course number 601
Department Ag Leadership, Educ & Comm
College/School Agriculture & Life Sciences
Academic Level Graduate
Effective term 2018-2019 Spring

Complete Course Title
Advanced Methods in Agricultural Education
Abbreviated Course Title
ADV METHODS IN AG ED

Catalog course description
Learning theories; techniques and procedures to enhance the teaching-learning process; methods to evaluate learning.

Prerequisites and Restrictions
Graduate Classification.

Should catalog prerequisites / concurrent enrollment be enforced?
No

In Workflow
1. ALEC Department Head
2. Curricular Services Review
3. AG Committee Preparer GR
4. AG Committee Chair GR
5. AG College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 09/24/18 12:29 pm Tracy Rutherford (rutherford): Approved for ALEC Department Head
2. 09/25/18 4:01 pm Terra Bisse (t.bisse): Approved for Curricular Services Review
3. 09/25/18 4:15 pm Dawn Kersteer (dkersteer): Approved for AG Committee Preparer GR
4. 10/17/18 3:52 pm Dawn Kersteer (dkersteer): Approved for AG Committee Chair GR
5. 10/17/18 3:54 pm Dawn Kersteer (dkersteer): Approved for AG College Dean GR
6. 10/29/18 8:45 am LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 11/01/18 3:42 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

History
1. Feb 24, 2018 by Tracy Rutherford (rutherford)
Crosslistings: No  
Stacked: No

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<th>Semester</th>
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<td>Credit</td>
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<tr>
<td>Hour(s)</td>
<td></td>
</tr>
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<td></td>
</tr>
</tbody>
</table>

Contact Hour(s) (per week): 
Lecture: 3  
Lab: 0  
Other: 0  
Total: 3

Repeatable for credit? No  
Three-peat? No

CIP/Fund Code: 1313010005
Default Grade Mode: Letter Grade (G)
Alternate Grade Modes: Satisfactory/Unsatisfactory
Method of instruction: Lecture

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

Learning Outcomes

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

This course meets learning outcomes through lectures and assignments.

Hours

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

This course meets hours through lectures and assignments.

Will this course be taught as a distance education course? Yes

I verify that I have reviewed the FAQ for Export Control Basics for Distance Education.

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)
Elective (select program)

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus: ALEC601_Spring2017_Syllabusupdated.pdf

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate# 2/3
Letters of support or other documentation: No

Additional information:

Reviewer Comments: Dawn Kerstetter (dkerstetter) (09/25/18 4:14 pm): Listed hours in syllabus table total 164, 135 required.

Reported to state: No
Instructor/Facilitator
Dr. Julie Harlin
AGLS 243
979-862-3014 Office
979-229-4856 Cell
j-harlin@tamu.edu
Office hours by appointment (in person, Skype, or phone appointments available)

Course Description
Learning theories; techniques and procedures to enhance the teaching-learning process; methods to evaluate learning.

Learning Outcomes These will be evaluated through the projects and activities associated with the course.

- Describe theoretical bases for teaching and learning.
- Discuss the principles of learning and their application.
- Discuss theories of learning transfer in the context of education and training programs.
- Define and discuss characteristics of effective teaching.
- Describe instructional strategies and techniques for learner motivation.
- Demonstrate instructional strategies and techniques for interaction and learner participation.
- Develop and deliver presentations using appropriate instructional techniques and technologies.
- Discuss assessment and evaluation methods in the teaching-learning process.
- Develop an instructional module using interactive teaching techniques.

Guiding Principles of this Course
One of the guiding principles in developing this course is that you are, by definition, an adult learner. As an adult learner, you can expect this course to be both structured, yet flexible. By that I mean that I will provide the structure, including the required readings, activities, and learner outcomes, yet you will have some flexibility at times to demonstrate your growth and development in mastering and applying the material. You are strongly encouraged to manage your time appropriately and plan ahead. Murphy's Law is to be anticipated, especially when it comes to technology issues in a web-based course. Though I am available to provide help, please do not consider me your “technical support” at 10 p.m. when an assignment is due at 11:59. I sincerely hope you will find the course material interesting and applicable to a variety of settings. If you need assistance, please do not hesitate to contact me through email, Facebook, phone or face to face—I typically respond very quickly. I look forward to growing and learning with you throughout this semester.

Required Textbook (this text and required readings served as the primary sources for development of this course)

Required Readings (other readings will be made available through ECampus)


Technology Required
As an online course, we will be using many tools that will require strong, reliable connectivity throughout the semester. Please inform the instructor immediately if you have technical issues so that they may be resolved in timely manner. You will need a Facebook and Youtube account to complete this course. ECampus will be used for submitting assignments. Facebook will utilize a closed group—be sure to check your privacy settings on Facebook. As a course
focused on issues related to methods of instruction, it is important that we understand the issues from broad contexts. Facebook will allow us to explore and share material related to our course. It will also allow us to become a community of learners where we can share relevant and timely topics related to our course and readings with the group easily. Announcements will be posted on Ecampus and Facebook.

**Course Organization**

This course is taught online and is organized into modules. You will have specific readings, reflections, discussion postings, case studies, and presentations due at specific points throughout the semester. You will have the flexibility to use your time as you see fit—if you have a conflict with a due date, please adjust your schedule to complete the assignments ahead of time. Updated syllabus, readings, rubrics, and other helpful information will be available on Ecampus. “This course has been assigned three credit hours based upon the work represented by verifiable student achievement of institutionally established learning outcomes, direct faculty instruction, and academically engaged time (Federal Rule 75 FR 66832; see https://www.gpo.gov/fdsys/pkg/FR-2010-10-29/pdf/2010-26531.pdf).”

### Module 1—Your Paradigm in Relation to Teaching and Learning

<table>
<thead>
<tr>
<th>Time of Engagement</th>
<th>Due Date—Jan 29</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, and Google forms.</td>
</tr>
<tr>
<td><strong>Readings</strong></td>
<td>Forward, Acknowledgements, About the Authors, and Introduction—How Learning Works (pp. xiii-9)</td>
</tr>
<tr>
<td><strong>Reflections</strong></td>
<td>Write a 2-3 page reflection paper, summarizing the readings and your reaction to what you have read. [Upload to Ecampus]</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Share an introduction of yourself to our Facebook group. Include your background (where from, family, etc.), what you hope to gain from taking this course, and your career goals/aspirations both short/long term. Please post a video or text so that we can get to know one another. [Post to Facebook]</td>
</tr>
<tr>
<td><strong>Project/Activity</strong></td>
<td>Identify a time where you had your most positive, memorable, learning experience. This could be a class, internship, seminar, workshop, in-service, training, etc. Write a 3-page double spaced paper describing the experience in detail, including why you believe you learned from the experience. Think in terms of the learning environment, teaching and learning activities, motivation and assessment methods, and other attributes that contributed to a successful learning experience. Contrast this positive experience to a time when you experienced a negative learning environment. Be sure to follow rubric criteria. You will also be asked to turn in an ALEC 601 Information Sheet [Upload both to Ecampus]</td>
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### Module 2—Learning Theories and Their Impact on Student Learning

<table>
<thead>
<tr>
<th>Time of Engagement</th>
<th>Due Date—Feb 19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, Google forms, etc.</td>
</tr>
<tr>
<td><strong>Readings</strong></td>
<td>Smith (2003). Learning Theories</td>
</tr>
<tr>
<td><strong>Reflection</strong></td>
<td>Write a 2-3 page double spaced summary of the reading or create a 2 page infographic [Upload to Ecampus].</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Share one article or video related to your readings with our class on Facebook. Comment on one article or video submitted by your classmates. [Post to Facebook]</td>
</tr>
<tr>
<td><strong>Project/Activity</strong></td>
<td>Find a scholarly research article that utilized one of the theories identified in your readings. Summarize the article and provide your reaction to how the theory informed the research process discussed in the paper. Submit the paper reviewed (link or pdf) along with your paper to Ecampus. Be sure to follow rubric criteria [Upload to Ecampus].</td>
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</table>

### Module 3—Student Learning Part I
<table>
<thead>
<tr>
<th>Mar 19</th>
<th>Engagement 35 hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, Google forms, etc.</td>
</tr>
<tr>
<td><strong>Readings</strong></td>
<td>Chapters 1-3 How Learning Works pp. 10-90; Tollefson (2000). Classroom applications of cognitive theories of motivation</td>
</tr>
<tr>
<td><strong>Reflections</strong></td>
<td>Write a summary- 1 double spaced page or 1 infographic page for two chapters/articles you found most interesting.</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Share one article or video related to your readings with our class on Facebook. Comment on one article or video submitted by your classmates. [Post to Facebook]</td>
</tr>
<tr>
<td><strong>Project/Activity</strong></td>
<td>Visit a learning environment that is similar to the context you hope to apply the concepts related to this course (short or long term). If unsure about possibilities, talk to your instructor (note, some learning environments may require background checks, or other approval procedures that may take some time). Observe for at least an hour, interview the instructor, and if possible, talk to students. Create a 4-6 page double spaced summary of your visit. Be sure to incorporate the concepts discussed in your readings for this module. Also be sure to describe the learning environment, related principles of learning and motivation theories, and strategies to improve the environment to prevent any problems you may have identified. Be sure to follow rubric criteria [Upload to Ecampus].</td>
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<table>
<thead>
<tr>
<th>Mar 19</th>
<th>Engagement 35 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, Google forms, etc.</td>
</tr>
<tr>
<td><strong>Readings</strong></td>
<td>Chapters 4-7 How Learning Works pp. 91-216; Smith (2001, 2006) Evaluation</td>
</tr>
<tr>
<td><strong>Reflections</strong></td>
<td>Thinking about the presentation you create in this module in an asynchronous environment, discuss how you would modify the presentation if given the opportunity to present to our class in person. What engagement strategies would you incorporate in a face to face setting? Write a 2-3 page double spaced reflection paper [Upload to Ecampus].</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Share one article or video related to your readings with our class on Facebook. Comment on one article or video submitted by your classmates. [Post to Facebook]</td>
</tr>
</tbody>
</table>
| **Project/Activity** | Choose a teaching/learning topic directly related to our course content that you would like to explore further—gain approval of your instructor for your topic (to ensure no overlap in topics). Develop a 15-20 minute presentation over the topic. Be sure to include the following:  
• Interest approach or anticipatory set to create interest in the topic  
• Importance and relevance of the topic in the teaching and learning process  
• Objectives for your presentation  
• Theoretical foundations/origins of the topic  
• Strategies for teachers to successfully implement the topic into their teaching including specific examples  
• Overview/summary of your presentation  
• Additional resources for more information  
• References in APA format  
The presentation will be created as a voice over PPT. You will create your PPT, record your voice in PPT, then upload the presentation to YouTube (instructions on one way to do this may be found on Ecampus). You will then share the presentation with your classmates on Facebook. Be sure to follow rubric criteria [Upload to Ecampus and Facebook]. | 12 hours |
### April 30 Engagement

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, Google forms, etc.</th>
<th>36 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readings</td>
<td>Conclusion, How Learning Works, pp. 217-224</td>
<td>9 hours</td>
</tr>
<tr>
<td>Reflections</td>
<td>Write a 2-3 page double spaced paper reflecting on what you have learned this semester in this course about teaching and learning and yourself. Be sure to include your suggestions for improving the course in the future as well as assignments and readings you found especially helpful in your development this semester [Upload to ECampus]. Complete the course evaluation on Pica.</td>
<td>6 hours</td>
</tr>
<tr>
<td>Discussion Postings</td>
<td>View at least two of your classmates presentations posted to Facebook in Module 4. Comment with your reaction/reflection to the presentations you viewed [Post to Facebook].</td>
<td>4 hours</td>
</tr>
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</table>

**Project/Activity**

Thinking about your current job or future career aspirations, create an instructional module for a particular audience. Your module should incorporate the principles and theories discussed throughout our course. You may choose the platform for your module, but it must be accessible to the class. You may want to consider a Google site or other free web based platform such as Weebly or Wix. Include the following:

- Introduction—include the intended audience, expectations, and learning outcomes; also include instructor information—why are you well prepared to teach this particular topic?
- Interest approach/Anticipatory set—create interest in topic you plan to teach including how it is useful or important
- Course content—teach the topics you feel are most important for this module. Be sure to include PPT, video, visuals, or whatever is most appropriate given the content
- Learning activities—include activities that will help the learner master the content; think about transfer and how this information may be applied to other settings
- Evaluation/Assessment methods—how will you determine if students have mastered the content?
- Summary/Overview—review the learning outcomes and remind students why the content is important or may be used in the future
- References—be sure to include APA references and links to additional or helpful information

Be sure to review the rubric criteria [Upload website link to Facebook and ECampus].

### Assignments and Grading

<table>
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<tr>
<th>Assignment</th>
<th>Points Possible</th>
<th>Percent of Grade</th>
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<tbody>
<tr>
<td>Reflections—10 points each; Module 1 – 5</td>
<td>50</td>
<td>12.5</td>
</tr>
<tr>
<td>Discussions—5 points per post and comment; Module 1 – 5</td>
<td>50</td>
<td>12.5</td>
</tr>
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<td>Module 1 Project/Activity – Paper</td>
<td>50</td>
<td>12.5</td>
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<td>Module 2 Project/Activity – Article Review</td>
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<td>12.5</td>
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<td>Module 3 Project/Activity – Observation Summary</td>
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<td>Module 4 Project/Activity – Presentation</td>
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<td>Module 5 Project/Activity – Instructional Module</td>
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**Total Points**

400

A=360 points or more earned, B=359-320 points earned, C=319-280 points earned, D=279-240 points earned, F=less than 240 points earned

### Late Work Policy

Unless arrangements have been made with the instructor, late work is considered late after the posted due date. Late work is penalized 10% off per day late (since this is an online course, this includes weekend and weekdays). If you have a situation that you believe warrants an extension of time of a module or assignment, please contact your instructor as soon as possible. In the case of university approved absences, please notify your instructor according to university rules: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07)

### Americans with Disabilities Act (ADA)

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, at White Creek Complex, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu)

### Academic Integrity

For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu) “An Aggie does not lie, cheat, or steal, or tolerate those who do.”

### Copyright Policy
All materials used in this class are copyrighted. These materials include but are not limited to syllabi, quizzes, exams, in-class materials, review sheets, web sites and journal articles. Because these materials are copyrighted, you do not have the right to copy the handouts, unless permission is expressly granted by the course instructors.
MEMORANDUM

TO: Mr. Michael K. Young, President

THROUGH: Dr. Carol A. Fierke, Provost and Executive Vice President

FROM: Dr. Michael Benedik, Vice Provost

SUBJECT: December 11, 2017 Faculty Senate Items

All of the attached December 2017 Faculty Senate items have been reviewed and approved by college, university curriculum, Faculty Senate and Office of the Provost.

New Course Request, Course Change Request, Course Withdrawal Request, Course Inactivation and Change in Curriculum Request, Informational Review Items

Approval recommended. FS.35.101; FS.35.102; FS.35.103; FS.35.104; FS.35.111; FS.35.112; FS.35.113; FS.35.114; FS.35.115; FS.35.116; FS.35.117; FS.35.118; FS.35.119; FS.35.120; FS.35.121; FS.35.122; FS.35.123; FS.35.124; FS.35.125; FS.35.126; FS.25.127; FS.35.128; FS.35.129; FS.35.130; FS.35.131; FS.35.132; FS.35.133; FS.35.134; FS.35.135; FS.35.136; FS.35.137; FS.35.138; FS.35.139; FS.35.140; FS.35.141; FS.35.142; FS.35.143; FS.35.144; FS.35.145; FS.35.146; FS.147; FS.35.148; FS.35.149; FS.35.150; FS.35.151; FS.35.152.

FS.35.105: Recommend approval. School of Public Health, Department of Health Policy and Management, MHA-HADM: Master of Health Administration in Health Administration. Request to change SCHs from 57 SCH to 55 SCH. The change will strengthen the resident track curriculum and ensure consistency between the Resident track and Executive track for Commission on Accreditation of Healthcare Management Education accreditation. External Action: Request to Change Semester Credit Hours form will be submitted to the System for approval by the THECB.

FS.35.106: Recommend approval. College of Agriculture and Life Sciences, Department of Nutrition and Food Science, MS-FSTC: Master of Science in Food Science and Technology. The non-thesis MS Food Science & Technology option is being discontinued in favor of the MAGR Food Science & Technology. The MS Food Science & Technology with thesis will remain. No external action.

FS.35.108: Recommend approval. School of Public Health, Department of Health Promotion and Community Health Sciences, CERT-CG58: Global Health-Certificate. Certificate requires 15 SCH, which does not surpass Texas Administrative Code, Chapter 5, Subchapter C, Section 5.48 allowed SCH. No external action.


FS.35.110: Recommend approval. Graduate Courses Taught in Non-traditional Formats-Spring 2018- 2nd Request. Graduate Courses Taught in Non-traditional Formats–Spring 2018. All colleges within Texas A&M performed a comparison of the learning outcomes for distance education and non-traditional courses for equivalency to traditional face-to-face courses to determine if the courses met compliance to University Rule 11.03.99.M1. No external action required.

Attachments
Course Change Request

Date Submitted: 09/24/18 12:02 pm

Viewing: ALEC 630: Guidance and Counseling for Rural Youth

Last approved: 02/24/18 3:29 am

Last edit: 09/25/18 4:02 pm

Changes proposed by: awinterrowd

Catalog Pages referencing this course
- ALEC - Ag Leadrshp, Ed. & Comm
- Department of Agricultural Leadership, Education, and Communications

Programs referencing this course
- CERT-CG64: Advanced Pedagogy in Agriculture - Certificate

Faculty Senate Number: FS.35.102

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<tbody>
<tr>
<td>Ashley Winterrowd</td>
<td><a href="mailto:awinterrowd@tamu.edu">awinterrowd@tamu.edu</a></td>
<td>9794580390</td>
</tr>
</tbody>
</table>

Rationale for Course

Edit
The proposed changes are part of a routine curriculum review.

Course prefix: ALEC
Course number: 630
Department: Ag Leadership, Educ & Comm
College/School: Agriculture & Life Sciences
Academic Level: Graduate
Academic Level (alternate): Undergraduate
Effective term: 2018-2019 Spring

Complete Course Title
- Guidance and Counseling for Rural Youth

Abbreviated Course Title
- GUID & COUN RURAL YOUTH

Catalog course description
Problems of youth with special attention given to rural youth; theories of vocational development reviewed and techniques and procedures developed to help youth make career choices.

Prerequisites and Restrictions
Graduate classification.

Concurrent Enrollment
No

Should catalog prerequisites / concurrent enrollment be enforced?
No

Crosslistings
No

Crosslisted With

In Workflow
1. ALEC Department Head
2. Curricular Services Review
3. AG Committee Preparer GR
4. AG Committee Chair GR
5. AG College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 09/24/18 12:30 pm
   Tracy Rutherford (rutherford): Approved for ALEC Department Head
2. 09/25/18 4:02 pm
   Terra Bisse (t.bisse): Approved for Curricular Services Review
3. 09/25/18 4:18 pm
   Dawn Kerstetter (dkerstetter): Approved for AG Committee Preparer GR
4. 10/17/18 3:52 pm
   Dawn Kerstetter (dkerstetter): Approved for AG Committee Chair GR
5. 10/17/18 3:54 pm
   Dawn Kerstetter (dkerstetter): Approved for AG College Dean GR
6. 10/29/18 8:45 am
   LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 11/01/18 3:42 pm
   LaRhesa Johnson (lrjohnson): Approved for GC Chair

History
1. Feb 24, 2018 by Tracy Rutherford (rutherford)
Stacked: No  
Stacked with: 

<table>
<thead>
<tr>
<th>Semester</th>
<th>Contact Hour(s) (per week):</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Lecture: 3, Lab: 0, Other: 0, Total: 3</td>
</tr>
</tbody>
</table>

Repeatable for credit? No

Three-peat? No

CIP/Fund Code 1313010005

Default Grade Mode Letter Grade (G)

Alternate Grade Modes Satisfactory/Unsatisfactory

Method of instruction Lecture

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

Learning Outcomes

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

This course meets learning outcomes through lectures and assignments.

Hours

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

This course meets hours through lectures and assignments.

Will this course be taught as a distance education course? Yes No

I verify that I have reviewed the FAQ for Export Control Basics for Distance Education. Yes

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus

ALEC630_Fall 2017_SyllabuswithEngagementHours.pdf
Letters of support or other documentation: No

Additional information:

Reviewer Comments: Dawn Kersteller (dkersteller) (09/25/18 4:17 pm): Syllabus table for hours lists 150. 135 are required.

Reported to state?: No
Instructor/Facilitator
Dr. Julie Harlin
AGLS 243
979-862-3014 or 979-229-4856
j-harlin@tamu.edu
Office Hours available by appointment in person or via Skype or phone

Course Description
Problems of youth with special attention given to rural youth; theories of vocational development reviewed and techniques and procedures developed to help youth make career choices.

Learning Outcomes These will be evaluated through the projects and activities associated with the course.
- Identify problems encountered by youth today
- Discuss theories of career development
- Analyze career possibilities for youth in the future
- Determine techniques and procedures used to help youth make good life choices
- Apply theories and concepts learned about at risk youth and career development to real-life situations and case studies
- Discover ways to positively impact youth both formal and informal

Guiding Principles of this Course
One of the guiding principles in developing this course is that you are, by definition, an adult learner. As an adult learner, you can expect this course to be both structured, yet flexible. By that I mean that I will provide the structure, including the required readings, activities, rubrics, and learner outcomes, yet you will have some flexibility at times to demonstrate your growth and development in mastering and applying the material. I sincerely hope you will find the course material interesting and applicable to a variety of settings. If you need assistance, please do not hesitate to contact me. I look forward to growing and learning with you throughout this semester.

Required Textbook (this text served as the primary source for development of this course and related materials)

Technology Required
As an online course, we will be using many tools that will require strong, reliable connectivity throughout the course. Please inform the instructor immediately if you have technical issues so that they may be resolved in timely manner. You will need a Facebook and YouTube account to complete this course. We will also use ECampus. Facebook will utilize a closed group—be sure to check your privacy settings on Facebook ©. As a course focused on issues related to youth at risk, it is important that we understand the issues impacting youth today. Facebook will allow us to explore the types of risks encountered by youth. It will also allow us to become a community of learners where we can share relevant and timely topics related to our course and readings with the group easily. In order to get the most out of our Facebook community, you will need to be proactive in your posts and not wait until the last minute.

Course Organization
This course is taught online and is organized into modules. You will have specific readings, reflections, discussion postings, case studies, and presentations due at specific points throughout the semester. You will have the flexibility to use your time as you see fit—if you have a conflict with a due date, please adjust your schedule to complete the assignments ahead of time. Updated syllabus and readings will be available on ECampus. All assignments are submitted through ECampus so that I may use rubrics for grading. All assignments are due by 10 pm on the date indicated. Late work is penalized 10% per day late. “This course has been assigned three credit hours based upon the work represented by verifiable student achievement of institutionally established learning outcomes, direct faculty instruction, and academically engaged time (Federal Rule 75 FR 66832; see https://www.gpo.gov/fdsys/pkg/FR-2010-10-29/pdf/2010-26531.pdf).”
<table>
<thead>
<tr>
<th>Module 1—Your Paradigm in Relation to the Problems</th>
<th>Due Date—Sept 11</th>
<th>Time of Engagement 25 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readings</strong></td>
<td>Chapters 1, 2, 3 Youth at Risk</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, and Google forms.</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>Reflections</strong></td>
<td>Write a summary of two chapters (2&amp;3—I have already summarized Chapter 1 for you as an example) - 1 double spaced page, per chapter OR 1 infographic page, per chapter [Submit to ECampus]</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Share one comment, article, video, etc. related to your readings with our class on Facebook. Commenting on something that a classmate or I have posted (at least three sentences) may count for this discussion posting. [Submit to Facebook]</td>
<td>3 hours</td>
</tr>
</tbody>
</table>
| **Project/Activity** | Create a 5-7 minute presentation about you:  
- Describe your paradigm for youth at risk in relation to your own personal experience. How were you at risk as youth?  
- How did you overcome the obstacles that could have set you off the path to success?  
- This could be a video presentation, a voice over ppt, or other visual component.  
- Post your video to YouTube and submit the link on ECampus and Facebook (post to the thread I start on Facebook labeled Module 1 Presentation.  
- If you are unsure about other ways to present, please obtain instructor approval.  
This assignment will allow us to learn more about each other while providing a context to me concerning your approach to our course content. Please refer to rubric criteria for specific information to include and formatting requirements. [Submit to ECampus & Facebook] | 4 hours |

<table>
<thead>
<tr>
<th>Module 2—Explaining the Problems of Youth Today</th>
<th>Due Date—Oct 9</th>
<th>Time of Engagement 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readings</strong></td>
<td>Chapters 4, 5, 6, 7 Youth at Risk</td>
<td>9 hours</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, and Google forms.</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Watch at least TWO of your classmate’s presentations from Module 1 and comment (at least three sentences) to at least two of those. [Post to Facebook]</td>
<td>3 hours</td>
</tr>
</tbody>
</table>
| **Project/Activity** | Create a written case study related to the problems of youth today discussed in the chapters. You may use real or fictional characters (change the names if you use a real situation). The case study should provide enough background so readers can related to the situation. Typical length is 3-5 double spaced pages. Be sure to include the following and follow the rubric criteria:  
- Background information of the subject  
- References to content discussed in Chapters 4-7 of Youth at Risk  
- Details concerning the at risk behaviors  
- Possible interventions that could result in a positive outcome  
Post your case study to Facebook (word or pdf file) and upload to ECampus [Submit to ECampus and Facebook]. | 6 hours |
<table>
<thead>
<tr>
<th>Module 3—Prevention and Intervention Part I</th>
<th>Due Date—Oct 30</th>
<th>Time of Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readings</strong></td>
<td>Chapters 8-18 Youth at Risk</td>
<td>35 hours</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, and Google forms.</td>
<td>12 hours</td>
</tr>
<tr>
<td><strong>Reflections</strong></td>
<td>Write a summary– 1 double spaced page per chapter or 1 infographic page for three chapters you found most interesting.</td>
<td>9 hours</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Project/Activity** | Find a movie that defines your generation of youth at risk. Typical length is 4-6 double spaced pages. Be sure to include the following and follow rubric criteria:  
- Comment on my Facebook thread labeled Module 3 Movie the movie you plan to watch for this assignment.  
- Watch the movie again, framing your view around the problems identified in our text.  
- Develop a paper that briefly summarizes the movie with enough detail that I can understand the context if I have not seen the movie.  
- Identify the at risk behaviors identified in the movie.  
- Reference parts of our text that relate to issues discovered in the movie.  
- Also discuss your view of these behaviors for your generation related to causes and prevention. | 8 hours |
| | Post your paper to ECampus (word or pdf file). [Submit to ECampus] | |

<table>
<thead>
<tr>
<th>Module 4—Prevention and Intervention Part II</th>
<th>Due Date—Nov 20</th>
<th>Time of Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readings</strong></td>
<td>Chapters 8-18 Youth at Risk</td>
<td>34 hours</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, and Google forms.</td>
<td>9 hours</td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td>Share TWO comments, articles, videos, etc. related to your readings with our class on Facebook [Post to Facebook]</td>
<td>6 hours</td>
</tr>
</tbody>
</table>
| **Project/Activity** | Choose a youth at risk issue that you would like to learn more about—gain approval of your instructor for your topic (post your topic to the Facebook thread labeled Module 4 Topic). Develop a 15-20 minute presentation over the issue. Be sure to include the following and follow rubric criteria:  
- Importance and relevance of the issue today  
- Impact of the issue in terms of long term effects on youth  
- Strategies for intervention and prevention  
- Include references and helpful resources | 3 hours |
<p>| | Post your presentation to YouTube and share your presentation on my Facebook thread labeled Module 4 Presentation. [Submit YouTube link to ECampus and post to Facebook] | 10 hours |</p>
<table>
<thead>
<tr>
<th>Module 5—Guiding Students Towards Career Paths</th>
<th>Due Date—Dec 11</th>
<th>Time of Engagement 32 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readings</strong></td>
<td></td>
<td>5 hours</td>
</tr>
<tr>
<td>Websites related to Career Development Theories (will be posted to ECampus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td></td>
<td>9 hours</td>
</tr>
<tr>
<td>Watch the videos posted for this module on ECampus, read emails related to this module, read and respond to Facebook, and Google forms</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Discussion Postings</strong></td>
<td></td>
<td>3 hours</td>
</tr>
<tr>
<td>Watch <strong>TWO</strong> of your classmates’ presentations from Module 4 and comment (at least three sentences on at least two of those. [Post to Facebook]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Project/Activity</strong></td>
<td></td>
<td>15 hours</td>
</tr>
<tr>
<td>Visit a school, program, or activity where students (K-12) are actively engaged with adults. Talk to your instructor if you need suggestions. Local examples include Jane Long or Davila Inquire Program, Stephen F Austin Odyssey Program, Bryan Collegiate High School, the SOS Arrow Academy, and Still Creek Academy. Meet with adults to determine the issues most often faced by youth and the strategies they utilize to help with resilience. Also investigate the resources they utilize to guide students towards career pathways. Comment on my Facebook thread labeled Module 5 Visit to let us know where you plan to visit for this assignment. You will also research the theories related to career development (Trait, Super, Ginzberg, Holland, etc.) to help frame your visit. Please plan ahead as some locations will require background checks that could take up to two weeks for approval.</td>
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</table>
| Write a paper on summarizing your visit and what you learned. Typical length 5-7 pages double spaced. Be sure to follow rubric criteria and include the following:  
  - Connect your learning to the readings from our course this semester.  
  - Include the theory base you subscribe to for career development and how this connects to your program visit.  
  - Based on your knowledge and expertise related to this course, what do you believe the role of adults is to guide students toward career paths, both formally and informally?  
  - What are ways you can make an impact on the future of young people? |                |                           |
| Post your paper (word or pdf file) to ECampus. [Submit to ECampus] |                |                           |
Assignments and Grading

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points Possible</th>
<th>Percent of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Reflections—10 points each</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 1 – 2 chapters</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>Module 3 – 3 chapters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussions—10 points each</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>Module 1 – 2 posts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 2 – 2 posts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 3 – 2 posts</td>
<td></td>
<td></td>
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<tr>
<td>Module 4 – 2 posts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 5 – 2 posts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 1 Project/Activity – Presentation</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>Module 2 Project/Activity – Case Study</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>Module 3 Project/Activity – Movie Review</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>Module 4 Project/Activity – Presentation</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>Module 5 Project/Activity – Paper</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td><strong>500</strong></td>
<td></td>
</tr>
</tbody>
</table>

A=450 points or more earned, B=449-400 points earned, C=399-350 points earned, D=349-300 points earned, F=less than 300 points earned

Late Work Policy
Unless arrangements have been made with the instructor, late work is considered late after the posted due date. Late work is penalized 10% off per day late (since this is an online course, this includes weekend and weekdays). If you have a situation that you believe warrants an extension of time of a module or assignment, please contact your instructor as soon as possible. In the case of university approved absences, please notify your instructor according to university rules: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07)

Americans with Disabilities Act (ADA)
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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit [http://disability.tamu.edu](http://disability.tamu.edu)

Academic Integrity
For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu) “An Aggie does not lie, cheat, or steal, or tolerate those who do.”

Copyright Policy
All materials used in this class are copyrighted. These materials include but are not limited to syllabi, quizzes, exams, in-class materials, review sheets, web sites and journal articles. Because these materials are copyrighted, you do not have the right to copy the handouts, unless permission is expressly granted by the course instructors.
MEMORANDUM

TO: Mr. Michael K. Young
    President

THROUGH: Dr. Carol A. Fierke
          Provost and Executive Vice President

FROM: Dr. Michael Benedik
      Vice Provost

SUBJECT: December 11, 2017 Faculty Senate Items

All of the attached December 2017 Faculty Senate items have been reviewed and approved by college, university curriculum, Faculty Senate and Office of the Provost.

New Course Request, Course Change Request, Course Withdrawal Request, Course Inactivation and Change in Curriculum Request, Informational Review Items

Approval recommended. FS.35.101; FS.35.102; FS.35.103; FS.35.104; FS.35.111; FS.35.112; FS.35.113; FS.35.114; FS.35.115; FS.35.116; FS.35.117; FS.35.118; FS.35.119; FS.35.120; FS.35.121; FS.35.122; FS.35.123; FS.35.124; FS.35.125; FS.35.126; FS.25.127; FS.35.128; FS.35.129; FS.35.130; FS.35.131; FS.35.132; FS.35.133; FS.35.134; FS.35.135; FS.35.136; FS.35.137; FS.35.138; FS.35.139; FS.35.140; FS.35.141; FS.35.142; FS.35.143; FS.35.144; FS.35.145; FS.35.146; FS.147; FS.35.148; FS.35.149; FS.35.150; FS.35.151; FS.35.152.

FS.35.105: Recommend approval. School of Public Health, Department of Health Policy and Management, MHA-HADM: Master of Health Administration in Health Administration. Request to change SCHs from 57 SCH to 55 SCH. The change will strengthen the resident track curriculum and ensure consistency between the Resident track and Executive track for Commission on Accreditation of Healthcare Management Education accreditation. External Action: Request to Change Semester Credit Hours form will be submitted to the System for approval by the THECB.

FS.35.106: Recommend approval. College of Agriculture and Life Sciences, Department of Nutrition and Food Science, MS-FSTC: Master of Science in Food Science and Technology. The non-thesis MS Food Science & Technology option is being discontinued in favor of the MAGR Food Science & Technology. The MS Food Science & Technology with thesis will remain. No external action.

FS.35.108: Recommend approval. School of Public Health, Department of Health Promotion and Community Health Sciences, CERT-CG58: Global Health-Certificate. Certificate requires 15 SCH, which does not surpass Texas Administrative Code, Chapter 5, Subchapter C, Section 5.48 allowed SCH. No external action.


FS.35.110: Recommend approval. Graduate Courses Taught in Non-traditional Formats-Spring 2018- 2nd Request. Graduate Courses Taught in Non-traditional Formats-Spring 2018. All colleges within Texas A&M performed a comparison of the learning outcomes for distance education and non-traditional courses for equivalency to traditional face-to-face courses to determine if the courses met compliance to University Rule 11.03.99.M1. No external action required.

Attachments
Course Change Request

Date Submitted: 03/30/18 8:22 am

Viewing: ARCH 600: Introduction to Architecture and Urban Design

Last edit: 04/23/18 8:29 pm
Changes proposed by: nklein

Catalog Pages referencing this course
- ARCH - Architecture
- Department of Architecture

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginger White</td>
<td><a href="mailto:gwhite@tamu.edu">gwhite@tamu.edu</a></td>
<td>979-458-3042</td>
</tr>
</tbody>
</table>

Rationale for Course Edit

The proposed changes are part of a routine curriculum review.

Course prefix: ARCH
Course number: 600

Department: Architecture
College/School: Architecture
Academic Level: Graduate
Academic Level (alternate): Undergraduate

Effective term: 2018-2019

Complete Course Title
Introduction to Architecture and Urban Design

Abbreviated Course Title
INTRO ARCH & URBAN DESIGN

Catalog course description
Introductory seminar and studio on architecture and urban design; focus on topical readings, in-class discussions and short writing exercises; provides opportunity to learn or refine hand drawing, rendering, and model building, and to learn to be productive and creative within the studio context.

Prerequisites and Restrictions
Graduate classification in architecture or approval of instructor.

Concurrent Enrollment
No

Should catalog prerequisites / concurrent enrollment be enforced?
No

In Workflow
1. ARCH Department Comm Chair
2. ARCH Department Head
3. Curricular Services Review
4. AR Committee Preparer
5. AR Committee Chair
6. AR College Dean
7. GC Preparer
8. GC Chair
9. Faculty Senate Preparer
10. Faculty Senate
11. Provost II
12. President
13. Curricular Services
14. Banner

Approval Path
1. 03/30/18 8:38 am
   Nancy Klein (nklein): Approved for ARCH Department Comm Chair
2. 04/23/18 4:28 pm
   Robert Warden (r-warden): Approved for ARCH Department Head
3. 04/23/18 8:30 pm
   Sandra Williams (sandra-williams): Approved for Curricular Services Review
4. 04/30/18 10:47 am
   Ann Broussard (ambroussard): Approved for AR Committee Preparer
5. 10/25/18 9:58 am
   Leslie Feigenbaum (l-feigenbaum): Approved for AR Committee Chair
6. 10/25/18 10:03 am
   Leslie Feigenbaum (l-feigenbaum): Approved for AR College Dean
7. 10/29/18 8:45 am
   LaRhessa Johnson (ljohnson): Approved for GC Preparer
8. 11/01/18 3:42 pm
   LaRhessa Johnson

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate#
Crosslistings: No

Semester: 2
Credit Hour(s): 2
Repeatable for credit? No
Three-peat? No
CIP/Fund Code: 0402010006
Default Grade Mode: Satisfactory/Unsatisfactory (S)
Alternate Grade Modes: 
Method of instruction: Lecture and Laboratory
Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education): Yes

Learning Outcomes:
Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.
The Departmental Academic Affairs Committee has determined that student learning outcomes and activities equivalent to a traditionally offered course. Please see attached document below.

Hours
Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.
The Departmental Academic Affairs Committee has determined that the course contact credit hours for the course equivalent to a traditionally offered course. Please see attached document below.

Will this course be taught as a distance education course? No
Is 100% of this course going to be taught in Texas? Yes
Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:
Required (select program)
Elective (select program)

Course Syllabus

Syllabus: 
Upload syllabus
Upload syllabus: ARCH-600-200-OBRIEN.pdf
Letters of support or other documentation: Yes

Upload files:
- Evaluation of Non-traditional Courses ARCH 600.pdf

Additional information:

Reviewer Comments: Nancy Klein (nklein) (03/30/18 8:37 am): Proposal for non-traditional approval only.

Reported to state?: No
Course title and number: ARCH 600-602 – Introduction to Architecture and Urban Design
Term (e.g., Fall 200X): Summer 2018
Meeting times and location: MTWRF 10:00 to 4:00 P.M.

Course Description and Prerequisites
ARCH 600: Introduction to Architecture and Urban Design. (1-1). Credit 2. Introductory seminar and studio on architecture and urban design; focus on topical readings, in-class discussions and short writing exercises; provides opportunity to learn or refine hand drawing, rendering, and model building, and to learn to be productive and creative within the studio context. Prerequisite: Graduate classification in architecture or approval of instructor.

Learning Outcomes or Course Objectives
Upon completing this course, a student will be able to:
• Be familiar with fundamental design studio processes
• Be able to demonstrate ability to control scale, accurately depicting 3 dimensional objects in spaces.
• Be able to describe the topography of a landscape in drawing and model
• Be able to develop a space needs program, formulate a concept to achieve the program, and develop a design in plan section and elevation that fulfills the program on a given parcel of land.

Instructor Information
Name: Michael O’Brien
Telephone number: 979 845 6719
Email address: mjobrien@tamu.edu
Office hours: By appointment
Office location: 441 Langford A

Textbook and/or Resource Material
• Lessons for Students of Architecture, Herman Hertzberger (about $30.00 on ABE.com)
• Architectural Graphics, Frank Ching, 3rd edition or newer, (about $4.00 on ABE.com)
• Architecture Form Space Order, Frank Ching, 1996 edition or newer, (about $4.00 on ABE.com)
• …and if you’re looking for reading…try “A Pattern Language” or “Thinking Architecture” or “The Master Builders” (by Blake) or “In Praise of Shadows”

Grading Policies
Students should refer to the Academic section in Student Rules and Regulations http://student-rules.tamu.edu.
- Grading will be based on the field studies projects (30%) the documentation project (10%) and the design project (60%)
Other Pertinent Grading Information (Rubric Included)

Welcome!
Welcome to Architecture! Your application was accepted from a very competitive field of applicants. Now the enjoyment of architecture begins.

What I’m hoping it will be for you: an immersion in seeing, questioning, and proposing architectural solutions to building needs by developing skills and methods to design, model, draw, and discuss your proposals.

What we’ll do: On each day of this 15-day session, we will work from 10 A.M. to 4 P.M. with a lunch break from 12:00 to 1:30.

Often there will be a deliverable due on your desk completed by 5 P.M. (this gives you the night free from studio work…but you might want to read…)

This will change when we travel. Our two field trips to Houston, and Dallas will require we get on the road pretty early, and may not return to campus until pretty late. It turns out Texas is a big state and it takes a bit of time to get around.

Most days will begin with a conversation, move into a skill-building project, (drawing, sketching, modeling…) which may take most of the day. These projects will use your design projects as a vehicle so while you develop your sketching, diagramming, drawing and modeling skills, you'll be doing that on your own design work. We’ll be mostly working to develop your manual skills at drawing and sketching so you understand the principles when you move to digital drawing.

We’ll break up the afternoon with slide show presentations of some interesting architectural work from the U.S. and Europe to introduce you to some of the leading ideas in architecture today.

Our one design project will be assigned during the first field trip. We’ll have midpoint reviews in the middle of the second week.

I think the time will fly by but we’ll try to manage the days so you will have completed products that you can use to make your presentations to visiting faculty at the midpoint and final reviews.

Books you’ll need:
- Lessons for Students of Architecture, Herman Hertzberger (about $30.00 on ABE.com)
- Architectural Graphics, Frank Ching, 3rd edition or newer, (about $4.00 on ABE.com)
- Architecture Form Space Order, Frank Ching, 1996 edition or newer, (about $4.00 on ABE.com)

Online resources for you:
We won’t be getting into much technical detail about structures, building codes or mechanical systems and materials in this introductory session, but should you want to know more about an issue, you can download podcasts on pretty much everything related to materials and codes from this website:
http://mjobrien.com/podcast_lectures

…and if you don’t want to listen and view the powerpoint notes in the podcasts, you can find the notes to the lecture subjects at: http://mjobrien.com/lecture_notes
Supplies you’ll need: you could find lots of this at Texas Art Supply, Amazon or gsdirect online but you need to have these for the first day.

- A small first-aid kit (keep at your desk)
- An X-acto knife with extra #11 blades (hence the first aid kit)
- Elmers white glue
- A magnetic compass (bring on all field trips and site visits)
- A 25 foot, 1 inch wide tape measure (useful on field trips and site visits)
- A sketchbook 8 1/2x11 or 8x10 spiral bound to lay flat when open.
- A vellum grid pad, 11x17 or 12x18 described as 8x8 grid (need this on the first day, look for it online http://www.amazon.com/Staedtler-Paper-100-Vellum-50-Sheet/dp/B002SG9XK2) (also known as clearprint 1000HP-8-17 found at http://www.gsdirect.net/clearprint-1000h-16-lb-8x8-fade-out-grid-vellum.html)
- A Tee square or parallel bar
- An adjustable triangle (6 inch or larger)
- A fixed 30/60/90 triangle (6 inch or larger)
- A .5 mm pencil with 2b lead
- 3 - 2B lead pencils or softer (4b, 6b)
- A white vinyl eraser
- Drafting dots or masking tape
- A roll of tracing paper, white or yellow (18 or 24”)
- A wide-point sharpie (black)
- A fine-point sharpie (black)
- A ultra-fine point sharpie (black)
- A few Pilot razor point pens (black) (similar felt tip products like micron ok…but NO rollerballs, gel pens, ball points) All work to be done in black ink or pencil (so it scans well for your folio).

- Some kind of digital camera, could be the one on your cell phone.

- You will also need some model materials (basswood or chip board) for modeling, but this will be on an “as-needed” basis. Hobby Lobby has most of these modeling materials. (We can stop by Texas Art Supply on Wednesday after our field trip to Houston for the modeling materials)

Course Objectives:

1. To prepare incoming Career Change students for design studio courses.
2. To introduce incoming Career Change students to urban design issues, architectural design issues, design methods, and graphical methods of presentation.
3. To develop the ability of each participant to make timely submissions of weekly deliverables (clearly identified with the student’s name, course number, and semester.)
4. To instill in each participant professional standards for care in presentation of
interim deliverables and presentation materials (page size, page layout, no spelling or math errors.)

5. To develop the ability to integrate basic IBC & ADA principles for Life-Safety and Accessibility into the students design work.
6. To demonstrate the result of insights learned from program, precedents, context, and site analysis.
7. To demonstrate a range of media employed to present specific aspects of the character of the work.
8. To develop the ability to present the final design scheme demonstrating the development of a single train of thought across program, core, structure, and envelope.
9. To develop the ability to articulate the sustainable characteristics of the alternatives.

**Expectations:** You will need to meet the following expectations to be considered for a passing grade:

- You will attend and participate in all meetings of the class for the full duration of the class. (working in the studio for the full duration of studio hours)
- You will participate in all studio reviews, pin-ups and presentations (including midterm and final presentations)
- You will meet all Texas A&M student rules in terms of honor, conduct, integrity, and classroom behavior
- You will complete and submit all deliverables on time.
- You will maintain a small first-aid kit at your studio desk.
- You will refrain from operating shop-type tools (drills, saws, grinders, hammers, sanders) at your studio desk and conduct these processes in the shop.
- You will refrain from conducting wet casting processes (plaster, concrete, leveling concrete) in the studio and conduct these processes outside on a tarp that you provide and will cleanup after yourself.
- You will refrain from conducting solvent based painting or staining operations in the studio (watercolor ok) and conduct these processes outside on a tarp that you provide and will clean up after yourself.
- You will clean up after yourself in the studio and maintain your workspace in a manner expected of a professional.
- You will clean up your studio space and move out of your studio space by the first day of exam week. Failure to comply will result in no grade being issued.

**Time Management**

The calendar for our class is shown below

You should plan for at least one hour of time outside of studio hours for each hour of studio per week. This means for our 22 hours of studio, you should budget, and invest 22 hours of additional time on studio work per week.
Attendance Policies

The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located online at http://student-rules.tamu.edu/rule07.

Project due dates will be provided in the project statements. Students should contact the instructor if work is turned in late due to an absence that is excused under the University’s attendance policy. In such cases the instructor will either provide the student an opportunity to make up any quiz, exam or other graded activities or provide a satisfactory alternative to be completed within 30 calendar days from the last day of the absence. There will be no opportunity for students to make up work missed because of an unexcused absence.
Other Pertinent Attendance Information

Course Topics, Calendar of Activities, Major Assignment Dates

<table>
<thead>
<tr>
<th>Day</th>
<th>A.M. / P.M.</th>
<th>Activity</th>
<th>Deliverable</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.30</td>
<td>A.M.</td>
<td>Sketching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Orthographics…field notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.31</td>
<td>A.M.</td>
<td>Site measure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Orthographics</td>
<td>Site profiles</td>
<td>5 pm</td>
</tr>
<tr>
<td>8.1</td>
<td>A.M.</td>
<td>Field trip to Houston</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Field trip to Houston</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.2</td>
<td>A.M.</td>
<td>Axons and program</td>
<td>Program study pages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Axons and program</td>
<td>Exploded Axonometric</td>
<td>5pm</td>
</tr>
<tr>
<td>8.3</td>
<td>A.M.</td>
<td>Sections, Sun, and systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Topography translation</td>
<td>Site sketches</td>
<td></td>
</tr>
<tr>
<td>8.6</td>
<td>A.M.</td>
<td>Anchoring</td>
<td>Diagram from anchorpoint</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>3 sketch models</td>
<td>3 sketch models</td>
<td>5pm</td>
</tr>
<tr>
<td>8.7</td>
<td>A.M.</td>
<td>Sections and Space</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Building Planning</td>
<td>Building master plan</td>
<td>5pm</td>
</tr>
<tr>
<td>8.8</td>
<td>A.M.</td>
<td>Building a Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Site floor plan</td>
<td>Site and floor plan</td>
<td>5pm</td>
</tr>
<tr>
<td>8.9</td>
<td>A.M.</td>
<td>Field Trip DFW</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Field Trip DFW</td>
<td>Sketches &amp; notes</td>
<td></td>
</tr>
<tr>
<td>8.10</td>
<td>A.M.</td>
<td>Sections and Sun</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Sections and Sun</td>
<td>Section &amp; Sun angles</td>
<td>5pm</td>
</tr>
<tr>
<td>8.13</td>
<td>A.M.</td>
<td>Interim reviews</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Interim reviews</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.14</td>
<td>A.M.</td>
<td>Production</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Production</td>
<td>Sketches &amp; notes</td>
<td>5pm</td>
</tr>
<tr>
<td>8.15</td>
<td>A.M.</td>
<td>Laying out</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Model slice</td>
<td>Model slice</td>
<td>5pm</td>
</tr>
<tr>
<td>8.16</td>
<td>A.M.</td>
<td>Layout &amp;Production</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Revisions &amp; layout</td>
<td>Layout mockups</td>
<td>5pm</td>
</tr>
<tr>
<td>8.17</td>
<td>A.M.</td>
<td>Presentations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.M.</td>
<td>Presentations</td>
<td>Drawing/model set</td>
<td></td>
</tr>
</tbody>
</table>

Americans with Disabilities Act (ADA)

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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call (979) 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu)
Academic Integrity

“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. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. For additional information please visit: http://aggiehonor.tamu.edu

Care of Facilities

The use of spray paint or other surface-altering materials is not permitted in the Langford Complex, except in designated zones. Students who violate this rule will be liable for the expenses associated with repairing damaged building finishes and surfaces. At the end of the semester, your area must be clean of all trash.

Studio Policy (required of all studios)

All students, faculty, administration and staff of the Department of Architecture at Texas A&M University are dedicated to the principle that the Design Studio is the central component of an effective education in architecture. They are equally dedicated to the belief that students and faculty must lead balanced lives and use time wisely, including time outside the design studio, to gain from all aspects of a university education and world experiences. They also believe that design is the integration of many parts, that process is as important as product, and that the act of design and of professional practice is inherently interdisciplinary, requiring active and respectful collaboration with others.

Students and faculty in every design studio will embody the fundamental values of optimism, respect, sharing, engagement, and innovation. Every design studio will therefore encourage the rigorous exploration of ideas, diverse viewpoints, and the integration of all aspects of architecture (practical, theoretical, scientific, spiritual, and artistic), by providing a safe and supportive environment for thoughtful innovation. Every design studio will increase skills in professional communication, through drawing, modeling, writing and speaking.

Every design studio will, as part of the syllabus introduced at the start of each class, include a clear statement on time management, and recognition of the critical importance of academic and personal growth, inside and outside the studio environment. As such it will be expected that faculty members and students devote quality time to studio activities, while respecting the need to attend to the broad spectrum of the academic life. Every design studio will establish opportunities for timely and effective review of both process and products. Studio reviews will include student and faculty peer review. Where external reviewers are introduced, the design studio instructor will ensure that the visitors are aware of the Studio Culture Statement and recognize that the design critique is an integral part of the learning experience. The design studio will be recognized as place for open communication and movement, while respecting the needs of others, and of the facilities.

Important Links Below

Department of Architecture Website http://dept.arch.tamu.edu/
Department Financial Assistance http://dept.arch.tamu.edu/financial-assistance/
Academic Calendar  http://admissions.tamu.edu/registrar/general/calendar.aspx
Final Exam Schedule Online http://admissions.tamu.edu/registrar/general/finalschedule.aspx
On-Line Catalog  http://catalog.tamu.edu
Student Rules  http://student-rules.tamu.edu/
Aggie Honor System Office  http://aggiehonor.tamu.edu/
American Institute of Architecture website  http://www.aia.org/index.htm
The Department of Architecture Academic Affairs Committee (DAAC) established the following process to determine the equivalency of shortened and non-traditional courses:

Table 1: Department of Architecture Non-Traditional Courses

<table>
<thead>
<tr>
<th>Course Number and Title</th>
<th>Course Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 600 Introduction to Architecture and Urban Design</td>
<td>Shortened format</td>
</tr>
</tbody>
</table>

The review of the shortened course evaluated the following:
1. Are the student learning outcomes and activities equivalent to a traditionally offered course? (Table 2)
2. Are the course contact credit hours for the course equivalent to a traditionally offered course? (Table 3)

Table 2: Comparison of Learning Outcomes and Activities for traditional and shortened format courses (X = identical or equivalent)

<table>
<thead>
<tr>
<th>Course</th>
<th>Learning Outcomes</th>
<th>Field Studies Projects</th>
<th>Documentation Project</th>
<th>Design Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 600 (shortened format)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 3: Equivalency of Contact Credit Hours for and shortened format course (X = identical or equivalent)

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructional Lectures</th>
<th>Field Studies (drawing, sketching, modeling)</th>
<th>Design Activities</th>
<th>Participation /Engagement Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 600 (shortened format)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Course Change Request

Date Submitted: 10/16/18 8:52 am

Viewing: ARCH 647: Recording Historic Buildings

Last edit: 10/17/18 9:36 pm
Changes proposed by: gwhite

Catalog Pages referencing this course
ARCH - Architecture
Department of Architecture

Programs referencing this course

Rationale for Course
Edit
The proposed changes are to meet the demand/interest of students.

Course prefix
ARCH
Course number
647

Department
Architecture

College/School
Architecture

Academic Level
Graduate

Academic Level (alternate)
Undergraduate

Effective term
2019-2020

Complete Course Title
Recording Historic Buildings

Abbreviated Course Title
RECORDING HIST BLDGS

Catalog course description
Advanced techniques for recording historic buildings; measuring and drawing to Historic American Building Survey Standards; field training experience in photography, laser scanning, photogrammetry, hand measuring, field notes and record drawing preparation.

Prerequisites and Restrictions
Graduate classification or approval of instructor.

Concurrent Enrollment
No

Should catalog prerequisites / concurrent enrollment be enforced?
No

Crosslistings
No

Stacked
No

In Workflow
1. ARCH Department Comm Chair
2. ARCH Department Head
3. Curricular Services Review
4. AR Committee Chair
5. AR College Dean
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 10/16/18 2:10 pm Nancy Klein (nklein): Approved for ARCH Department Comm Chair
2. 10/16/18 5:36 pm Robert Warden (r-warden): Approved for ARCH Department Head
3. 10/17/18 9:37 pm Sandra Williams (sandra-williams): Approved for Curricular Services Review
4. 10/25/18 10:00 am Leslie Feigenbaum (l-feigenbaum): Approved for AR Committee Chair
5. 10/25/18 10:03 am Leslie Feigenbaum (l-feigenbaum): Approved for AR College Dean
6. 10/29/18 8:46 am LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 11/01/18 3:42 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginger White</td>
<td><a href="mailto:gwhite@tamu.edu">gwhite@tamu.edu</a></td>
<td>979-458-3042</td>
</tr>
</tbody>
</table>

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate#
Semester: 3
Credit Hour(s): 5

Contact Hour(s) (per week):
Lecture: 1
Lab: 4
Other: 0
Total: 11

Repeatable for credit? No
Three-peat? No

CIP/Fund Code: 0402010006
Default Grade Mode: Letter Grade (G)
Alternate Grade Modes: Satisfactory/Unsatisfactory
Method of instruction: Lecture and Laboratory

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education)
No

Will this course be taught as a distance education course?
No

Is 100% of this course going to be taught in Texas?
Yes

Will classroom space be needed for this course?
Yes

This will be a required course or an elective course for the following programs:
Required (select program)
Elective (select program)

Course Syllabus

Syllabus: Upload syllabus
Upload syllabus: ARCH647_syllabus_7oct2018.pdf

Letters of support or other documentation
No

Additional information
Reviewer Comments
Reported to state?
Change CS

Key: 1484
ARCH 647 Recording Historic Buildings
Section: 600
Term: Fall 2019
Meeting Times: Tuesday 8:00-8:50, 8:51-10:05am; Thursday 8:00-10:05am
Location: TBA
Instructor: Prof. Brent Fortenberry
Office: Scoates 132 (in the Center for Heritage Conservation)
Email: brforte@tamu.edu
Office Hours: Tuesday/Thursday 10:30–12:00

ARCH 647 Recording Historic Buildings
Credits 3.1 Lecture Hour. 4 Lab Hours.
Advanced techniques for recording historic buildings; measuring and drawing to Historic American Building Survey Standards; field experience in photography, laser scanning, photogrammetry, hand measuring, field notes and record drawing preparation.

Prerequisites: Graduate classification or approval of instructor.

Learning Outcomes
1. Identify, define, and describe the various architectural components of historic buildings. [TAMU Graduate Learning Outcome: Master degree-program requirements, including theories, concepts, principles, and practice.]

2. Apply digital technologies (e.g., laser scanning and photogrammetry) to the documentation of historic buildings and landscapes and translate those digital data into 2D and 3D renderings [TAMU Graduate Learning Outcome: Use appropriate technologies to communicate, collaborate, conduct research, and solve problems].

3. Document the form and fabric of historic buildings and produce measured plans, elevations, and sections according to the standards of the Historic American Building Survey (HABS). [TAMU Graduate Learning Outcome: Develop clear research plans and conduct valid, data-supported, theoretically consistent, and institutionally appropriate research].

4. Produce advanced conditions assessments for historic buildings by recognizing, analyzing, and evaluating the various agents of decay that effect historic architectural materials. [TAMU Graduate Learning Outcome: Use a variety of sources and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments].

5. Produce a set of professional quality architectural drawings of a historic structure that will be submitted to Historic American Building Survey (HABS). [TAMU Graduate Learning Outcome: Communicate effectively; master degree-program requirements, including theories, concepts, principles, and practice].
6. Produce an academic conference poster that will communicate the recording and documentation process of the project site, integrate historic sources, and explain the significance of the research conducted. [TAMU Graduate Learning Outcomes: Communicate effectively; master degree-program requirements, including theories, concepts, principles, and practice; apply a variety of strategies and tools, use a variety of sources, and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments].

ARCH 647 fulfills an elective credit for the graduate Certificate in Historic Preservation offered through the Center for Heritage Conservation at Texas A&M University by addressing the following area “deemed common and essential in the field of historic preservation” as required by the National Council for Preservation Education (http://www.ncpe.us/standards): documentation and recording techniques used in preservation and archeology. For more information about the Certificate in Historic Preservation, see http://chc.arch.tamu.edu/education/certificate/ .

Required Texts:
*Additional readings available through eCampus.

Required Materials
- Tape Measure (at least 25′)
- Architect’s Scale
- Field pencil (mechanical best option 0.7/0.5 lead)
- Blue and Red Mechanical Pencils
- Straight edge (e.g., triangle) optional for fieldwork.
- Graph paper (discuss in class)
- Camera (smart phone OK, DSLR or equivalent preferred)
- Field notebook (Hardback Moleskin or Shinola best option)

Required Assignments/Deliverables Percentage of Final Grade
Architectural Interpretive Report 20%
On-Site Field Drawings 10%
2D AutoCAD Renderings 10%
Digital Model (Laser scanning and Photogrammetry) 10%
3D Revit Renderings 10%
Conditions Assessment 10%
HABS/ Holland Prize Sheet and Final Layout 15%
Academic Project Poster 15%

See class schedule below for respective due dates for assignments

Late Assignment Policy: Late work will not be accepted, except in cases of excused absences.

Your grades will be posted on eLearning after each exercise. Letter grades will be assigned according to the following guidelines: A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = 59 and below.
Mid-Course Evaluations: Throughout the course there will be three mid-course evaluations where students will be able to provide feedback to the instructor on the course, its strengths, weaknesses, and where it can be improved. These will be anonymous and completed via Google Forms.

Plagiarism Policy: According to the Texas A&M University Definitions of Academic Misconduct, plagiarism is the appropriation of another person’s ideas, processes, results or words without giving appropriate credit (aggiehonor.tamu.edu). You should credit your use of anyone else’s words, graphic images, or ideas using standard citation styles. If I should discover that you have failed to properly credit sources or have used a paper written by someone else, I will recommend that you receive an F in this course. The Aggie Honor System Office processes for adjudication and appeals can be found at aggiehonor.tamu.edu.

The most common type of misconduct reported to the Honor System Office, this is using someone else's intellectual content (ideas, words, pictures, etc.) with giving appropriate credit or attribution. Examples:

- Intentionally, knowingly, or carelessly presenting the work of another as one’s own (i.e., without crediting the author or creator).
- Failing to credit sources used in a work product in an attempt to pass off the work as one’s own.
- Attempting to receive credit for work performed by another, including papers obtained in whole or in part from individuals or other sources. Students are permitted to use the services of a tutor (paid or unpaid), a professional editor, or the University Writing Center to assist them in completing assigned work, unless the instructor explicitly prohibits such assistance. If the student uses such services, the resulting product must be the original work of the student. Purchasing research reports, essays, lab reports, practice sets, or answers to assignments from any person or business are strictly prohibited. Sale of such materials is a violation of both these rules and State law.
- Failing to cite the World Wide Web, databases and other electronic resources if they are utilized in any way as resource material in an academic exercise.
- Other similar acts.

Texas A&M University Student rules (http://student-rules.tamu.edu/)

Attendance: Texas A&M views class attendance as an individual student responsibility. Attendance is essential to complete the course successfully. Material presented in lecture and class discussion may expand upon points only briefly considered in the required text. University rules concerning excused absences may be found at http://student-rules.tamu.edu/rule07.

Excused absences: A list of excused absences can be found in Student Rule 7.1 (http://studentrules.tamu.edu/rule07). Except for absences due to religious obligations, the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. In cases where advance notification is not feasible (e.g., accident, or emergency) the student must provide notification by the end of the second working day after the absence. This notification should include an explanation of why notice could not be sent prior to the class. If the absence is excused, the instructor must either provide the student with an opportunity to make up any quiz, exam or other graded activities or provide a satisfactory alternative to be completed within 30 calendar days from the last day of the absence.

Excused Absences for Religious Holy Days: Texas House Bill 256 (effective 9/1/03) states “An institution of higher education shall excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable amount of time after the absence.”
Academic Integrity “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. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. For additional information please visit: http://aggiehonor.tamu.edu

Each work that you turn in for this class must include your signature and the following statement. “On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work.”

Classroom Behavior Texas A&M University supports the principle of freedom of expression for both instructors and students. The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. Classroom behavior that seriously interferes with either (1) the instructor’s ability to conduct the class or (2) the ability of other students to profit from the instructional program will not be tolerated. An individual engaging in disruptive classroom behavior may be subject to disciplinary action. For additional information please visit: http://student-rules.tamu.edu/rule21

Americans with Disabilities Act (ADA) Policy Statement 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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Useful Links:
Academic Calendar http://registrar.tamu.edu/general/calendar.aspx
Final Exam Schedule http://registrar.tamu.edu/Courses-Registration-Scheduling/Final-Exam-Schedule
TAMU Catalog http://catalog.tamu.edu
Student Rules http://student-rules.tamu.edu/
Aggie Honor System Office http://aggiehonor.tamu.edu/

Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td><strong>Introduction to the Course and Content</strong></td>
</tr>
<tr>
<td></td>
<td>● Why do we record historic buildings?</td>
</tr>
<tr>
<td></td>
<td>● Historic American Buildings Survey (HABS)</td>
</tr>
<tr>
<td></td>
<td>● Holland and Peterson Prize (National Park Service)</td>
</tr>
<tr>
<td></td>
<td><strong>Project Overview—Review Project Site Location/History</strong></td>
</tr>
<tr>
<td></td>
<td>Readings: Burns, Chapters 1–3</td>
</tr>
<tr>
<td></td>
<td><strong>Introduction to Field and HABS Documentation</strong></td>
</tr>
<tr>
<td></td>
<td>● Tools of the Trade</td>
</tr>
</tbody>
</table>
| Week 2 | **Beginning to Measure**-mechanics of recording.  
*Readings:* Burns, Chapters 5 and 6 |
|---|---|
| **Pavilion Recording**-Meet at south side of Geosciences Building  
*Reading:* Burns Chapter 9 |
| Week 3 | **Reading and Writing about Buildings**–Lecture  
| **Site Visit #1**– Orientation to site, context, and “reading buildings”  
- Bring field gear  
*Reading:* Burns, Chapter 11 |
| Week 4 | **Interpreting the Project Site**  
| **Site Visit #2**-Starting Measured Drawing  
- Bring field gear |
| Week 5 | **Translating field notes to digital renderings**  
*Readings:* Historic American Buildings Survey Appendix A  
*Architectural Interpretive Reports Due*  
**Translating field notes to digital renderings**  
*Readings:* Historic American Buildings Survey Appendix B |
| Week 6 | **Site Visit #3**-Documentation  
- Bring field gear |
| | **Introduction to Digital Documentation**–Laser Scanning  
*Readings:*  
| Week 7 | **Site Visit #4—Digital Documentation**  
| |  
| | - Laser Scanning  
| | - Drone photogrammetry  
| **Readings:**  
| Week 8 | **Laser Scanning Processing—Lecture**  
| **Reading:** Faro Scene: Laser Scanning Manual [PDF available in eCampus.] |
| Week 9 | **Processing Photogrammetric Data**  
| **Reading:** Agisoft Processing Workflow |
| Week 10 | **Archival Research for the Project Site**  
| - Site and county history  
| **Readings:** TBA [varies with project site] |
| | **Archival and Comparative Examples**  
| **Readings:** TBA [varies with project site] |
### Introduction to Architectural Conditions Assessment

**Readings:**


*Digital Model

*Revit Model Due

<table>
<thead>
<tr>
<th>Week 11</th>
<th>Site Visit #5-Condition Assessment</th>
</tr>
</thead>
</table>

**Mapping Conditions on AutoDesk and Digital Renderings**

**Reading:** Ford, Frances, and Brent Fortenberry. “Hybrid Methodologies for Mortar Analysis, a View from the Carolina Lowcountry.” *Proceedings of the 4th Historic Mortars Conference HMC2016*, 2016, 673–680. [PDF available in eCampus.]

<table>
<thead>
<tr>
<th>Week 12</th>
<th>Conditions Reporting and Recommendations</th>
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</thead>
</table>


*Conditions Assessment Due*

<table>
<thead>
<tr>
<th>Week 13</th>
<th>Introduction to the Leicester B. Holland Prize</th>
</tr>
</thead>
</table>

**Reading:** [https://www.nps.gov/hdp/competitions/holland.htm](https://www.nps.gov/hdp/competitions/holland.htm)

<table>
<thead>
<tr>
<th>Week 13</th>
<th>Design and Sheet for the Holland Prize submission</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Week 14</th>
<th>Presentation Preparation, Academic Poster Design and Sheet</th>
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</table>

<table>
<thead>
<tr>
<th>Week 14</th>
<th>Presentation to Stakeholders</th>
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**Final Work Day and Wrap Up**

- Final Course Evaluations

<table>
<thead>
<tr>
<th>Week 14</th>
<th>FINAL EXAM (DATE &amp; TIME DETERMINED BY REGISTRAR) –</th>
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</table>

*HABS/Holland Prize Sheet and Final Layout Due

*Academic Poster Due*
Course Change Request

Date Submitted: 09/20/18 8:33 am

Viewing: BAEN 620 : Food Rheology

Last edit: 10/19/18 2:04 pm
Changes proposed by: ashleaschroeder

Catalog Pages referencing this course
BAEN - Biological & Ag. Engr.
Department of Biological and Agricultural Engineering

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashlea Schroeder</td>
<td><a href="mailto:aschroeder@tamu.edu">aschroeder@tamu.edu</a></td>
<td>979-845-0609</td>
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</table>

Rationale for Course

Edit

The proposed changes are part of a routine curriculum review.
The proposed changes are the result of teaching the maximum allowed times for a temporary course.

Course prefix: BAEN  
Course number: 620  
Department: Biological & Agricultural Eng  
College/School: Agriculture & Life Sciences  
Academic Level: Graduate  
Effective term: 2019-2020  
Complete Course Title: Food Rheology  
Abbreviated Course Title: FOOD RHEOLOGY

Catalog course description

Principles of elasticity, viscous flow and visco-elasticity applied to solid and liquid food materials; experimental determination of rheological properties using fundamental methods and empirical textural measurements; applications to food engineering research, textural measurement and quality control.

Prerequisites and Restrictions

AGSM 315 or NFSC 315; PHYS 201 or equivalent; graduate classification; or approval from instructor. FSTC 315, PHYS 201; graduate classification.

Should catalog prerequisites / concurrent enrollment be enforced? No

Crosslistings: No  
Crosslisted With

Stacked: No  
Stacked with

Approval Path

1. 09/19/18 8:22 am  
Stephen Searcy (ssearcy): Approved for BAEN Department Head

2. 09/19/18 10:14 am  
Terra Bissett (t.bissett): Approved for Curricular Services Review

3. 09/19/18 10:20 am  
Dawn Kersteer (dkersteer): Approved for AG Committee Preparer GR

4. 09/19/18 10:31 am  
Dawn Kersteer (dkersteer): Rollback to Initiator

5. 09/20/18 4:58 pm  
Zivko Nikolov (znikolov): Rollback to Initiator

6. 09/20/18 11:03 am  
Zivko Nikolov (znikolov): Approved for BAEN Department Head

7. 09/20/18 2:14 pm  
Terra Bissett (t.bissett): Approved for Curricular Services Review

8. 09/20/18 3:02 pm  
Dawn Kersteer (dkersteer): Approved for AG Committee Preparer GR

9. 09/24/18 8:30 am  
Dawn Kersteer (dkersteer): Approved
### BAEN 620: Food Rheology

<table>
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<tr>
<th>Semester</th>
<th>3</th>
<th>Contact Hour(s)</th>
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<th>Lab: 0</th>
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<td>(per week):</td>
<td>Total</td>
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<tr>
<td>Hour(s)</td>
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</tbody>
</table>

- Repeatable for credit? No
- CIP/Fund Code 0110020005
- Default Grade Mode Letter Grade (G)
- Method of instruction Lecture and Laboratory
- Lecture

**Will sections of this course be taught as non-traditional?** (i.e., parts of term, distance education)

- Yes

**Learning Outcomes**

- Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

- The DE students will watch the recorded lectures and complete all requirements that in-class participation is required to complete.

**Hours**

- Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

- The 135 hrs for distance delivery will consist of watching lecture recordings and other demonstrations, reading and homework assignments, online discussions and other Q&A forums, chatting with class instructor, and project discussions.

**Will this course be taught as a distance education course?**

- Yes No

I verify that I have reviewed the FAQ for Export Control Basics for Distance Education.

- Yes No

Is 100% of this course going to be taught in Texas?

- Yes

Will classroom space be needed for this course?

- Yes

This will be a required course or an elective course for the following programs:

**Required (select program)**

- (MS-BAEN) Master of Science in Biological and Agricultural Engineering
- (MS-AGSM) Master of Science in Agricultural Systems Management
- (PHD-BAEN) Doctor of Philosophy in Biological and Agricultural Engineering
- (MS-FSTC) Master of Science in Food Science and Technology

**Elective (select program)**

- (MS-BAEN) Master of Science in Biological and Agricultural Engineering
- (MS-AGSM) Master of Science in Agricultural Systems Management
- (PHD-BAEN) Doctor of Philosophy in Biological and Agricultural Engineering
- (MS-FSTC) Master of Science in Food Science and Technology

---

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate#
Course Syllabus

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<tr>
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<tr>
<td></td>
<td>BAEN 620.pdf</td>
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<table>
<thead>
<tr>
<th>Letters of support or other documentation</th>
<th>No</th>
</tr>
</thead>
</table>

Additional information

Reviewer Comments:
- Dawn Kerstetter (dkerstetter) (09/19/18 10:31 am): Rollback: Rollback per department-syllabus issues.
- Zivko Nikolov (znikolov) (09/19/18 4:58 pm): Rollback: As requested.
- Dawn Kerstetter (dkerstetter) (09/24/18 8:52 am): Rollback: Approve error—GPC needs to approve first.
BAEN - 620 FOOD RHEOLOGY  
Fall 2019

Lecture: MWF 8-8:50am; SCTS 215 (lectures will be recorded for DE students)

Course Description and Prerequisites

Principles of elasticity, viscous flow and viscoelasticity applied to solid and liquid food materials; experimental determination of rheological properties using fundamental methods and empirical measurements; applications to food engineering and food science research, textural measurement and quality control

Prerequisites: AGSM/NFSC 315, PHYS 201; graduate classification

Course Objectives

The objectives of this course are to give students the necessary background and hands-on experience on rheological principles and measurement methods as needed in the food and related industries. Emphasis will be given to learning fundamental measurement techniques.

Instructor Information

Name: Dr. Elena Castell  
Telephone number: 979-862-7645  
Email address: ecastell@tamu.edu  
Office hours: Open door policy and via e-mail or Skype for Distance Education students  
Office location: 311 Scoates Hall

Textbook and/or Resource Material


Free copy available at [https://sites.google.com/site/jfsteffe/freeman-press](https://sites.google.com/site/jfsteffe/freeman-press) and at the eLearning course site. Lecture notes will also be posted on the website

Other references:

Books:

Journals:
1. Journal of Rheology
2. Applied Rheology
3. Rheology Bulletin
4. Journal of Texture Studies
Grading Policies

Each instructor will assign and grade their own assignments and exams. The grades earned for each component will be collated across instructors to determine a final grade for the course. Each instructor may have their own requirements as far as assignments and exams are concerned.

<table>
<thead>
<tr>
<th>Grading</th>
<th>Grading Scale</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>35%</td>
</tr>
<tr>
<td>Research Paper &amp; Presentation</td>
<td>25%</td>
</tr>
<tr>
<td>Exams (midterm &amp; final)</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>90 – 100: A</td>
</tr>
<tr>
<td></td>
<td>80 – 89: B</td>
</tr>
<tr>
<td></td>
<td>70 – 79: C</td>
</tr>
<tr>
<td></td>
<td>60 – 69: D</td>
</tr>
<tr>
<td></td>
<td>Below 60: F</td>
</tr>
</tbody>
</table>

**Assignments**: Incomplete assignments will not be accepted and given a zero grade. Assignments must be completed by the deadline and submitted to the class instructor. Late assignments will not be accepted unless the student has a University excused absence*. Instructor will make arrangements with those students enrolled via the Distance Education program. **Practical assignments**: Some Fridays we will be holding practical sessions on specific instruments commonly used in the food and related industries.

**Exams**: There will be one 50-minute in-class exam during the semester and a final exam. Each exam will contain material covered in lecture, lab demonstrations, and reading assignments. Make up exams will only be given for students with a certified medical excuse or prior instructor approval*. Instructor will make arrangements with those students enrolled via the Distance Education program.

*Excuses for emergency absences must be reported to the instructor as soon as possible, but not more than one week after the return to class. See University Rules for a full statement of the University attendance policy at [http://student-rules.tamu.edu/rule7.htm](http://student-rules.tamu.edu/rule7.htm).

**Research Project**: Food, chemical and other types of engineers are facing new challenges to improve product performance and quality while simultaneously reducing costs. Implementing effective product characterization procedures in product development, process optimization, and quality control efforts can contribute significantly to meeting these challenges. Rheology is a central science that can be applied successfully to food products, and the use of rheometric instrumentation in development and quality control is well established. Rheological analyses can therefore be invaluable in characterizing the effects of formulation and processing variables on both the processability and end-use or performance properties of food products.

Your assignment is to assess and try to solve a food quality/development/processing problem using rheological principles. You will:

1. Conduct a thorough literature search on the problems related to processing of the selected product or the process itself.
2. Identify the rheological technique(s) that may help solve the problem, select the most suitable instrument, and test conditions.
3. Conduct an in-depth analysis of type of data collected and its interpretation. You may collect your own data or use data from the literature.
4. Provide conclusions and recommendations.

You are expected to evaluate more than one rheological technique for measurement of a specific rheological property or behavior. Do not limit yourself. Be creative and explore as many alternatives as possible. However, keep in mind that the fundamental principles must not be compromised. You should differentiate between empirical, imitative, and fundamental methods, and justify selection of the most appropriate method according to the desired application. Provide detailed mathematical background supporting your assumptions.
You will give a presentation to the class and provide a written report of your project (by the last day of classes). The Presentation accounts for 10% of the grade and the written report for 15%. Instructor will make arrangements with those students enrolled via the Distance Education program.

The Report outline should include:
(a) Introduction (1-2 pages)
(b) Objectives
(c) Literature review or background
(d) Materials and methods (very detailed)
(e) Presentation of data and discussion (must include mathematical treatment of results, graphics and tables)
(f) Conclusions and recommendations
(g) References

There is no maximum page limit for the Report. However, reports with less than double-spaced 10 pages (including figures and tables) will be considered unacceptable.

Instructor will work with those students enrolled in the course via Distance Education programs to determine appropriate research project (paper and presentation) due dates.

This course has been assigned three credit hours based upon the work represented by verifiable achievement of institutionally established learning outcomes, direct faculty instruction, and academically engaged time. (Federal Rule GEN 11-06)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Contact Hours</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction, rheological data</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Viscosity or rheological parameters</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Definitions; solids, liquids</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Time-dependent material, yield stress, flow</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Summary of viscometric functions</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>Falling ball viscometer, rotational viscometer</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Tube viscometry, mixer viscometry</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>Review, Mid-term</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>Measurement of Rheological Parameters – elastic behavior of viscoelastic fluids (semi-liquid)</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Measurement of Rheological Parameters – elastic behavior of viscoelastic fluids (semi-solid)</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>Measurement of Rheological Parameters - Yield stress</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>Optimization of measurement tests</td>
<td>9</td>
</tr>
<tr>
<td>13</td>
<td>Texture of food materials – solids</td>
<td>9</td>
</tr>
<tr>
<td>14</td>
<td>Texture of food materials – semi-solids</td>
<td>9</td>
</tr>
<tr>
<td>15</td>
<td>Final</td>
<td>9</td>
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</tbody>
</table>

Total hours 135

Student Contact Hours: The 135 contact hours will consist of watching lecture recordings and other demonstrations, reading and homework assignments, online discussions and other Q&A forums, chatting with class instructor, and project discussions.
I. Introduction

- Need for rheological data in the food (and other) industry
- Why measure viscosity or rheological parameters?
- What do we need to know about our material?

II. Theoretical Background: Classification of materials - Deformation and Stress

- Definition of stress and strain, tensors
- Elastic (Hookean) solid
- Viscous (Newtonian) liquid
- Rheological models for time independent fluids
- Concept of apparent viscosity
- Time-dependent materials
- Concept of yield stress
- Steady shear flow (shear vs. extensional)
- Summary of viscometric functions

III. Measurement of rheological parameters – (Inelastic) liquids, shear viscosity

1. Falling ball viscometer: Principle; pros and cons; applications; mathematical treatment of test results
2. Rotational viscometers:
   a. Brookfield viscometer: Principle; pros and cons; time-dependency; applications; mathematical treatment of test results.
   b. Haake 6000 RheoStress Rheometer: Geometries, shear rate approximations; pros and cons; time-dependency; applications; mathematical treatment of test results.
3. Tube (capillary) viscometry:
   b. Pipe viscometer: Derivation of the Rabinowitch-Mooney equation (end correction, slip correction); mathematical treatment of test results.
4. Mixer viscometry:
   a. Principles; applications (suspensions, emulsions); mathematical treatment of test results.

IV. Measurement of Rheological Parameters –The elastic behavior of viscoelastic fluids (semi-liquid and semi-solid materials)

- Introduction to viscoelasticity
- Rheological (mechanical) Models: The Maxwell Fluid
- Stress relaxation
- Shear creep and creep recovery
- Dynamic Measurements: Small Amplitude Oscillatory Shear
- Deborah Number
- Normal stresses and normal stress differences
- Extensional Viscosity: Squeezing Flow
- Mathematical treatment of test results

V. Measurement of Rheological Parameters - Yield stress

- Extrapolation method
- Tests using the controlled stress rheometer
- The Yield Stress Brookfield Rheometer
- Mathematical treatment of test results
VI. How to Select the Most Suitable Rheometer
Optimization of measurement tests

- How accurate are the instruments?
- Checklist

VII. Texture of Food Materials (Solids and semi-solids)

- Definition and Importance
- Rheology and texture
- Measurement methods and types of tests

Coursework Copyright Statement (Texas A&M University Policy Statement): The handouts used in this course are copyrighted. By "handouts," this means all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, homework, lab problems, in-class materials, weekly news, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy them, unless you are expressly granted permission.

Plagiarism: 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 directly copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

If you have any questions about plagiarism and/or copying, please consult the latest issue of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty”.

Other Pertinent Course Information

University Regulations: You are reminded of the following university regulations:
1. It is the responsibility of the student to be sure that course prerequisites are met (TAMU Reg 3).
2. Class attendance is an individual student responsibility (TAMU Reg 15).
3. Classroom behavior will be maintained to insure the rights of all students to learn (TAMU Reg. 40).
4. If you have a disability which may require alternate accommodations related to the requirements of this course, please inform the instructor and/or make an appointment with the instructor so that necessary alternative arrangements can be made.
5. It is the responsibility of students and instructors to help maintain scholastic integrity at the university by refusing to participate in or tolerate scholastic dishonesty (TAMU Reg 39).

Americans with Disabilities Act (ADA)

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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.
Academic Integrity
For additional information please visit: http://aggiehonor.tamu.edu

For many years, Aggies have followed a Code of Honor in an effort to unify the aims of all Aggies toward a high code of ethics and dignity. It functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other. Students should refer to the University policy on academic integrity found in the Honor Council website: All violations will be handled as specified by University Guidelines.

Aggies do not lie, cheat or steal; nor do they tolerate those who do.
Course Change Request

Date Submitted: 09/19/18 12:39 pm

Viewing: **EDCI 663 : Advanced Pedagogy in Science Education**

**Scientific Inquiry in K-16 Classrooms**

Last edit: 09/20/18 2:29 pm
Changes proposed by: ambyrios

Catalog Pages referencing this course
- Department of Teaching, Learning and Culture
- EDCI - Educ Curriculum & Dev.

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambyr Rios</td>
<td><a href="mailto:ambyrrios@tamu.edu">ambyrrios@tamu.edu</a></td>
<td>9798628122</td>
</tr>
</tbody>
</table>

Rationale for Course

**The proposed changes are part of a routine curriculum review.**

Course prefix: EDCI
Course number: 663

Department: Teaching, Learning & Culture
College/School: Education & Human Development
Academic Level: Graduate
Academic Level (alternate): Undergraduate
Effective term: 2019-2020

Complete Course Title
- **Advanced Pedagogy in Science Education**
- **Scientific Inquiry in K-16 Classrooms**

Abbreviated Course Title
- ADV PEDAGOGY SCIENCE ED
- SCI INQ K-16 CLASSROOM

Catalog course description

*Advanced examination of theory and research on the teaching of science; emphasis on teacher behaviors and strategies, lesson integration of scientific inquiry into classroom instruction in K-16 learning environments, emphasizing curriculum decision-making, alignment, and unit design, laboratory instruction, selection of content, materials and activities, and methods of self-assessment in pre-K to college and informal educational settings. Design across the K-16 continuum.*

Prerequisites and Restrictions

Concurrent Enrollment: No
Should catalog prerequisites /
## Concurrent Enrollment

| Concurrent Enrollment be enforced? | No |

| Crosslistings                  | No  |
| Stacked                        | No  |

### Crosslisted With

### Stacked with

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<th>Lab:</th>
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</table>

### Repeatable for credit?

| Three-peat? | No |

### CIP/Fund Code

| 1313160004 |

### Default Grade Mode

| Letter Grade (G) |

### Alternate Grade Modes

| Satisfactory/Unsatisfactory |

### Method of instruction

| Lecture |

### Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education)

| No |

### Will this course be taught as a distance education course?

| No |

### Is 100% of this course going to be taught in Texas?

| Yes |

### Will classroom space be needed for this course?

| Yes |

This will be a required course or an elective course for the following programs:

- Required (select program)
- Elective (select program)

### Program(s)

| (PHD-EDCI) Doctor of Philosophy in Curriculum and Instruction |

## Course Syllabus

**Syllabus:**

- Upload syllabus

**Upload syllabus**

- No

**Letters of support or other documentation**

- No

**Additional information**

- Title and description updated to reflect the content of the course more accurately.

**Reviewer Comments**

- Terra Bissett (t.bissett) (09/20/18 2:30 pm): Minor edits made to course description to comply with catalog style guide.

**Reported to state?**

- Change

- CS
Course Change Request

Date Submitted: 09/24/18 2:22 pm

Viewing: EDCI 667: Nature Research and Foundations of Science and Science Education

Last edit: 09/24/18 4:59 pm

Changes proposed by: ambyrrios

Catalog Pages referencing this course
Department of Teaching, Learning and Culture
EDCI - Educ Curriculum & Dev.

Faculty Senate Number

Contact(s)

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<td><a href="mailto:ambyrrios@tamu.edu">ambyrrios@tamu.edu</a></td>
<td>9798628122</td>
</tr>
</tbody>
</table>

Rationale for Course

The proposed changes are part of a routine curriculum review.

Course prefix: EDCI
Course number: 667
Department: Teaching, Learning & Culture
College/School: Education & Human Development
Academic Level: Graduate
Effective term: 2019-2020

Complete Course Title
Nature Research and Foundations of Science and Science Education

Abbreviated Course Title
NATURE SCIENCE & SCIENCE ED, RES FOUNDATIONS SCI ED

Catalog course description
Use Analysis of history, philosophy research in science education which relates the historical and sociology philosophical basis of science to address issues such as what is and science teaching; emphasis on implications for improved instruction, especially on the nature of science, how science works and the nature of its relation to other disciplines, and student understanding of the scientific knowledge, improve science teaching, and promote robust science learning and more informed socio-scientific decision-making, way of knowing.

Prerequisites and Restrictions

Concurrent Enrollment: No
Should catalog prerequisites /
```
<table>
<thead>
<tr>
<th>Concurrent enrollment be enforced?</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Crosslistings</td>
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</tr>
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<td>Stacked</td>
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<td>Is 100% of this course going to be taught in Texas?</td>
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### Course Syllabus

**Syllabus:**

Upload syllabus

**Upload syllabus**

**Letters of support or other documentation:**

No

**Additional information:**

Course name and description updated to more accurately reflect course offered.

**Reviewer Comments**

Terra Bissett (t.bissett) (09/20/18 2:38 pm): Rollback: Please reference our website to update catalog course description to comply with the catalog style guide (http://registrar.tamu.edu/Our-Services/Curricular-Services/Catalog/Style-Guide-for-Catalog-Course-Descriptions)

Terra Bissett (t.bissett) (09/24/18 5:00 pm): Updates received.

**Reported to state?**

No
```
Course Change Request

Date Submitted: 09/24/18 2:23 pm

Viewing: EDCI 668: History and Foundations of Science Education: 1900 to Present

Last edit: 09/25/18 1:19 pm

Changes proposed by: ambyrrios

Faculty Senate Number

Contact(s)

<table>
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<tr>
<td>Ambyr Rios</td>
<td><a href="mailto:ambyrrios@tamu.edu">ambyrrios@tamu.edu</a></td>
<td>9798628122</td>
</tr>
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</table>

Rationale for Course

The proposed changes are part of a routine curriculum review.

Course prefix: EDCI  
Course number: 668

Department: Teaching, Learning & Culture

College/School: Education & Human Development

Academic Level: Graduate

Academic Level (alternate): Undergraduate

Effective term: 2019-2020

Complete Course Title

History and Foundations of Science Education: 1900 to Present

Abbreviated Course Title

HIST & FOUNDATIONS CULTURE-SCIENCE ED

Catalog course description

Examination of the historical science education as a discipline, profession, culture and theoretical background of popular research areas as a component in science education and their influence on current science teaching practices; includes the education of K-16 students during the nature of science, scientific literacy, inquiry, conceptual change, argumentation, and science teacher preparation and professional development, last 100 plus years in the United States and selected developed nations.

Prerequisites and Restrictions

Graduate classification.

Concurrent Enrollment: No

Should catalog prerequisites: No

Approval Path

1. 09/19/18 2:49 pm
   Michael DeMiranda (demiranda): Approved for TLAC Department Head

2. 09/20/18 2:45 pm
   Terra Bissett (t.bissett): Rollback to Initiator

3. 09/24/18 3:18 pm
   Michael DeMiranda (demiranda): Approved for TLAC Department Head

4. 09/25/18 1:22 pm
   Terra Bissett (t.bissett): Approved for Curricular Services Review

5. 09/25/18 2:27 pm
   Melanie Robideau (mrobideau): Approved for ED Committee Preparer GR

6. 10/22/18 4:48 pm
   Beverly Irby (irbyb): Approved for ED Committee Chair GR

7. 10/22/18 4:49 pm
   Beverly Irby (irbyb): Approved for ED College Dean GR

8. 10/29/18 8:49 am
   LaRhesa Johnson (lrjohnson): Approved for GC Preparer

9. 11/01/18 3:44 pm
   LaRhesa Johnson (lrjohnson): Approved for GC Chair
concurrent enrollment be enforced?

Crosslistings  No  Crosslisted With
Stacked No  Stacked with

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<th>Contact Hour(s)</th>
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<th>Lab: 0</th>
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Repeatable for credit?  No
Three-peat?  No

CIP/Fund Code  1309010004
Default Grade Mode  Letter Grade (G)
Alternate Grade Modes  Satisfactory/Unsatisfactory

Method of instruction  Lecture
Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education)  No
Will this course be taught as a distance education course?  No
Is 100% of this course going to be taught in Texas?  Yes
Will classroom space be needed for this course?  Yes

This will be a required course or an elective course for the following programs:

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<thead>
<tr>
<th>Required (select program)</th>
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<tr>
<td>(PHD-EDCI) Doctor of Philosophy in Curriculum and Instruction</td>
</tr>
</tbody>
</table>

Course Syllabus

Syllabus:  Upload syllabus
Upload syllabus

Letters of support or other documentation  No

Additional information  Title and course description updated to better reflect content of course for learners.
Reviewer Comments  Terra Bissett (t.bissett) (09/20/18 2:45 pm): Rollback: Please reference our website to update catalog course description to comply with the catalog style guide [http://registrar.tamu.edu/Our-Services/Curricular-Services/Catalog/Style-Guide-for-Catalog-Course-Descriptions]
Terra Bissett (t.bissett) (09/25/18 1:20 pm): Updates received.
Terra Bissett (t.bissett) (09/25/18 1:20 pm): Minor edits made to catalog course description to comply with catalog style guide.

Reported to state?
Course Change Request

Date Submitted: 09/24/18 2:22 pm

Viewing: EDCI 671: How People Learn Science

Last approved: 01/31/18 3:26 am
Last edit: 09/24/18 5:03 pm

Changes proposed by: ambyrrios

| Department of Teaching, Learning and Culture |
| EDCI - Educ Curriculum & Dev. |

Catalog Pages referencing this course

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Ambyr Rios</td>
<td><a href="mailto:ambyrrios@tamu.edu">ambyrrios@tamu.edu</a></td>
<td>9798628122</td>
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</tbody>
</table>

Rationale for Course

The proposed changes are part of a routine curriculum review.

Course prefix: EDCI
Course number: 671

Department: Teaching, Learning & Culture
College/School: Education & Human Development
Academic Level: Graduate (alternate)

Effective term: 2019-2020

Complete Course Title: How People Learn Science
Abbreviated Course Title: HOW PEOPLE LEARN SCIENCE

Catalog course description

Investigation The study of well-established theories of learning, motivation science learning and attribution; significant implications for teaching epistemology, centered upon the essays "How People Learn and learning science; examination How Students Learn Science"; reviewing and discussing learning science design strategies and theories of learning science in light of teaching models congruent with how people learn science, understanding and advancing students' learning, classroom interactions, and the organization of schools.

Prerequisites and Restrictions
(s): Graduate classification.
Concurrent Enrollment: No
Should catalog prerequisites / No

In Workflow
1. TLAC Department Head
2. Curricular Services Review
3. ED Committee Preparer GR
4. ED Committee Chair GR
5. ED College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 09/19/18 2:49 pm Michael DeMiranda (demiranda): Approved for TLAC Department Head
2. 09/20/18 2:46 pm Terra Bissett (t.bissett): Rollback to Initiator
3. 09/24/18 3:18 pm Michael DeMiranda (demiranda): Approved for TLAC Department Head
4. 09/24/18 5:05 pm Terra Bissett (t.bissett): Approved for Curricular Services Review
5. 09/25/18 7:51 am Melanie Robideau (mrobideau): Approved for ED Committee Preparer GR
6. 10/22/18 4:47 pm Beverly Irby (irbyb): Approved for ED Committee Chair GR
7. 10/22/18 4:50 pm Beverly Irby (irbyb): Approved for ED College Dean GR
8. 10/29/18 8:49 am LaRhesa Johnson (lrjohnson): Approved for GC Preparer
9. 11/01/18 3:44 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate#
concurrent enrollment be enforced?

Crosslistings No Crosslisted With

Stacked No Stacked with

Semester 3 Contact Hour(s) (per week):
Lecture: 3 Lab: 0 Other: 0 Total 3

Credit Hour(s)

Repeatable for credit? No
Three-peat? No

CIP/Fund Code 1303010004
Default Grade Mode Letter Grade (G)
Alternate Grade Modes Satisfactory/Unsatisfactory
Method of instruction Lecture
Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

Learning Outcomes

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met. Previously approved via memo (Spring 2018).

Hours

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met. Previously approved via memo (Spring 2018).

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Program(s)

(PhD-EDCI) Doctor of Philosophy in Curriculum and Instruction

Course Syllabus

Syllabus: Upload syllabus
Upload syllabus

History

1. Jan 31, 2018 by Donna Mancuso (donnaman)
Course description updated to more accurately and clearly explain the content of course for prospective student enrollees.

Reviewer Comments

Terra Bissett (t.bissett) (09/20/18 2:46 pm): Rollback: Please reference our website to update catalog course description to comply with the catalog style guide (http://registrar.tamu.edu/Our-Services/Curricular-Services/Catalog/Style-Guide-for-Catalog-Course-Descriptions)

Terra Bissett (t.bissett) (09/24/18 5:04 pm): Updates received.

Terra Bissett (t.bissett) (09/24/18 5:05 pm): Minor edits made to course description to comply with catalog style guide.

Terra Bissett (t.bissett) (09/24/18 5:05 pm): Please note: course previously approved for non-traditional format.
Course Change Request

Viewing: **EDCI 701 : Scientific Inquiry in Science Education**

**Elementary Science Instructional Strategies and STEM Learning**

Last approved: 09/05/17 3:17 am
Last edit: 09/24/18 5:06 pm

Changes proposed by: ambyrrios

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**Faculty Senate Number**

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<td><a href="mailto:ambyrrios@tamu.edu">ambyrrios@tamu.edu</a></td>
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**Rationale for Course**

The proposed changes are part of a routine curriculum review.

**Course prefix**

EDCI

**Course number**

701

**Department**

Teaching, Learning & Culture

**College/School**

Education & Human Development

**Academic Level**

Graduate

**Effective term**

2019-2020

**Complete Course Title**

Scientific Inquiry in Science Education Elementary Science Instructional Strategies and STEM Learning

**Abbreviated Course Title**

SCIENTIFIC INQUIRY SCIENCE ED ELEM SCIENCE INST STRAT & STEM

**Catalog course description**

Inquiry models and aspects of scientific inquiry; modification of science activities in pre-K to college and informal educational settings to be more congruent with science education goals, how students learn and the nature of science. Development of engaging STEM activities using inquiry and project-based learning approaches; creation of appropriate assessments for STEM activities and integrated STEM learning units.

**Prerequisites and Restrictions**

Graduate classification

**Concurrent Enrollment**

No

**Approval Path**

1. 09/19/18 2:50 pm
   Michael DeMiranda (demiranda): Approved for TLAC Department Head

2. 09/20/18 2:47 pm
   Terra Bissett (t.bissett): Rollback to Initiator

3. 09/24/18 3:18 pm
   Michael DeMiranda (demiranda): Approved for TLAC Department Head

4. 09/24/18 5:07 pm
   Terra Bissett (t.bissett): Approved for Curricular Services Review

5. 09/25/18 7:51 am
   Melanie Robideau (mrobideau): Approved for ED Committee Preparer GR

6. 10/22/18 4:48 pm
   Beverly Irby (irbyb): Approved for ED Committee Chair GR

7. 10/22/18 4:50 pm
   Beverly Irby (irbyb): Approved for ED College Dean GR

8. 10/29/18 8:49 am
   LaRhesa Johnson (lrjohnson): Approved for GC Preparer

9. 11/01/18 3:44 pm
   LaRhesa Johnson (lrjohnson): Approved for GC Chair
Should catalog prerequisites / concurrent enrollment be enforced? No

Crosslistings No

Semester 3 Contact Hour(s) Lecture: 3 Lab: 0 Other: 0 Total: 3

Repeatable for credit? No

Three-peat? No

CIP/Fund Code 1313990102

Default Grade Mode Letter Grade (G)

Alternate Grade Modes Satisfactory/Unsatisfactory

Method of instruction Lecture

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) No Yes

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Program(s)

(PhD-EDCI) Doctor of Philosophy in Curriculum and Instruction

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus

Letters of support or other documentation No

Additional information Updated title and course description to better reflect course content for students.

Reviewer Comments Terra Bissett (t.bissett) [09/20/18 2:47 pm]: Rollback: Please reference our website to update catalog course description to comply with the catalog style guide (http://registractamu.edu/Our-Services/Curricular-
Reported to state?

Change
CS
Course Change Request

Viewing: **EHRD 647: Education for the Older Adult**

Last edit: 09/28/18 8:20 am
Changes proposed by: ksmith

Catalog Pages referencing this course

**EHRD - Ed. Human Res. Develop.**

Faculty Senate Number

<table>
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<tr>
<td>Kerri Smith</td>
<td><a href="mailto:krsmith@tamu.edu">krsmith@tamu.edu</a></td>
<td>979-847-9098</td>
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Rationale for Course

Edit

Other

Explain other rationale

**Requesting approval to teach this course in a non-traditional format (online).**

Course prefix     EHRD
Course number      647
Department         Educ Admn & Human Resource Dev
College/School     Education & Human Development
Academic Level     Graduate
Academic Level     Undergraduate
Effective term     **2018-2019 Spring**

Complete Course Title
Education for the Older Adult

Abbreviated Course Title
EDCTN FOR OLDER ADULTS

Catalog course description

Older adults as unique learners—defining specific physical and psycho-sociological differences between older adults and other learners; educational implications of specific needs and current educational programs to meet those needs.

Prerequisites and Restrictions
Graduate classification.

Concurrent Enrollment
No

Should catalog prerequisites / concurrent enrollment be enforced?
No

Crosslistings
No
Crosslisted With

In Workflow
1. EAHR Department Head
2. Curricular Services Review
3. ED Committee Preparer GR
4. ED Committee Chair GR
5. ED College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 09/27/18 5:13 pm Mario Torres (mstorres): Approved for EAHR Department Head
2. 09/28/18 8:21 am Terra Bisse (t.bisse): Approved for Curricular Services Review
3. 10/01/18 1:11 pm Melanie Robideau (mrobideau): Approved for ED Committee Preparer GR
4. 10/22/18 4:48 pm Beverly Irby (irbyb): Approved for ED Committee Chair GR
5. 10/22/18 4:50 pm Beverly Irby (irbyb): Approved for ED College Dean GR
6. 10/29/18 8:49 am LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 11/01/18 3:45 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate#
### EHRD 647: Education for the Older Adult

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- Repeatable for credit? No
- Three-peat? No
- CIP/Fund Code: 1312010004
- Default Grade Mode: Letter Grade (G)
- Alternate Grade Modes: Satisfactory/Unsatisfactory
- Method of instruction: Lecture
- Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

### Learning Outcomes

**Meets traditional face-to-face learning outcomes.**

Describe how learning outcomes are met or provide justification why they are not met.

EHRD 647 is a full traditional semester length course delivered online. The course and reading content and learning activities are of the same amount, level and rigor as they are in a conventionally delivered course. Students are expected to read and complete learning activities on a weekly basis. The course is divided into weekly modules. Students attend one synchronous course session at the beginning of the semester. Students read materials, watch videos, read PowerPoints, take online interactive quizzes, and use other multimedia resources as appropriate for the module. Instructor/student feedback takes the form of weekly, detailed feedback to each student on their weekly reading survey. The instructor also posts a weekly summary from the data gleaned from the weekly reading surveys and provides answers for questions asked about the readings. Students are not only required to learn about the subject through reading, but are also required to develop and submit deliverables that also demonstrate learning outcomes for the course, including interviewing an older adult learner, weekly reading surveys, weekly in-person group meeting role sheets where students each have a role and must complete that role assignment to participate in the synchronous group discussion, as well as a research paper and final portfolio comprised of a reflective essay on the group experience, compilation of role sheets and peer review score sheets. The instructor answers content and technical questions via email, tele-conferencing (Skype), phone, discussion board, and in person. Student/student interaction take place in their weekly synchronous group meetings. Student/content interaction is facilitated through a variety of media. The course meets contact hour requirements through each of these avenues of facilitating learner interactions throughout the semester.

### Hours

**Meets traditional face-to-face hours.**

Describe how hours are met or provide justification why they are not met.

The course meets contact hour requirements through each of these avenues of facilitating learner interactions throughout the semester.

Will this course be taught as a distance education course? Yes

I verify that I have reviewed the FAQ for Export Control Basics for Distance Education. Yes

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? No
This will be a required course or an elective course for the following programs:

<table>
<thead>
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<th>Program(s)</th>
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<td>(MS-EHRD) Master of Science in Educational Human Resource Development</td>
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</table>

**Course Syllabus**

Syllabus: Upload syllabus

Upload syllabus: [EHRD 647 Syllabus SP 2019 Final.docx](#)

Letters of support or other documentation: No

Additional information:

Reviewer Comments:

Reported to state: No
I. **Times and Dates:** The course will meet online. Students will meet in groups also. There will be ONE (1) meeting held in real time via telephone on **January 17th, 2019 from 6:00-7:00 pm Central Time.** Assignments are generally due on Sundays by 11 pm CENTRAL TIME (CT)

II. **Location:** Online

III. **Prerequisites:** Graduate Student Status

IV. **Course Description:** Older adults as unique learners—defining specific physical and psycho-sociological differences between older adults and other learners; educational implications of specific needs and current educational programs to meet those needs.

V. **General Course Objectives**

The following general objectives are provided to guide course activity with an emphasis upon implications for practice in older adult education and training. It is assumed that it is important to include ideas from various positionalities. Students will be encouraged to critique the material through a variety of lenses including those of race, class, gender, sexual orientation etc.

1. To identify biological, psychological and cognitive changes in older adults.

2. To evaluate the effectiveness of intergenerational learning.

3. To examine the impact of ageism on older adult’s lives.

4. To evaluate lifelong learning policies for older adults.

5. To identify factors that influence older adult motivation and participation in adult and higher education
6. To investigate the sociocultural factors that may influence older adult learning.

7. To investigate the formal and non-formal settings where older adult learning occurs.

8. To identify “best practices” in educating older adults.

10. To apply the concept of “successful aging” to a real-life experience.

VI. Required Texts


There are additional readings in PDF that can be accessed for each week under “Course Modules.”

REQUIRED PROGRAMS/SOFTWARE:

1) Access to PowerPoint.
2) Access to Adobe Reader which can be downloaded from this link http://www.adobe.com/products/acrobat/readstep2.html
3) Access to Word or the ability to write papers in Rich Text Format. I will NOT accept papers written in any other format because I cannot open files in other formats.

Helpful Hints for the Online Student: Please check out this link to make your online learning experience a good one.

http://www.ion.uillinois.edu/resources/tutorials/pedagogy/StudentProfile.asp

V. Course Expectations and Rules for Students

1. Regular class online participation is expected. Discussion board rules are expected to be followed and assignments are to be completed in a timely manner for maximum points.
Excused absences: Students must provide evidence to the instructor for an excused absence. Excused absences include acute injury or acute illness. Illness confirmation can be obtained by either:

1. Confirmation of a visit to a health care professional including the date and time of visit and contact number of said health professional.

And/or:


2. Completion of assigned readings by the date due.

3. An assignment is considered to be late if the due date for that assignment has passed. If a student submits a paper after the due date, there will be a one letter grade deduction per day. Late weekly reading surveys will receive no credit.

4. Papers must be written in Times New Roman, 12-point, 1-inch margins, double spaced, spacing before and after set to 0. (See Word 2007 and Word 10: Home, Paragraph, Spacing and set Spacing to 0 before and 0 after). Previous versions of Word don’t seem to have the spacing issue. Correct formatting is a necessity for optimum points on an assignment.

5. Papers avoid plagiarizing or submitting papers done for another class as an assignment for this course as credit will not be given for such assignments. Papers and projects will receive no points if Wikipedia is used as a source. (See Plagiarism Statement later in this document).

6. Incompletes will be granted when there are extreme circumstances that prevent the student from completing the course in a timely manner. The granting of an incomplete is at the discretion of the instructor. Please contact me as soon as possible if you believe you will not be able to complete course requirements. Please note that an “I” grade automatically changes to an “F” the semester following the semester when the course was taken.

7. The syllabus can be changed at the discretion of the instructor(s) given how the course sessions go.

8. Submit all papers via eCampus to turnitin.com or as assignments.

9. Communication from the instructor will be through your TAMU student e-mail account. Check your TAMU e-mail and eCampus’s START PAGE for course updates/changes.
11. Consistent with graduate level work, I do not “pre-read” papers and provide feedback. However, you are invited to schedule appointments with me to discuss the general direction of your work. The quality of writing is of high importance in our program and if you are concerned about the quality of your writing, please consult the following campus resources: University Writing Center: http://writingcenter.tamu.edu/, P.O.W.E.R: http://power.tamu.edu/ There are also sources that I list under the “Orientation” page online that list various resources for grad students.

12. All course-related questions must be submitted to the forum “Students Helping Students” on the discussion board. Students often ask the same questions and your submission of them to that forum on the discussion board helps everyone. Students can help each other and I will also check that forum regularly.

13. Meet the minimum page requirements for papers. If a student completes three full pages of writing when the minimum page requirement is 4 full pages, his/her paper will be graded according to the rubric and the score will be multiplied by .75 because he/she completed 75% of the minimum page requirement. Students will not be penalized for exceeding the maximum page requirement. However, it is advisable to stay within these page requirements.

14. University system outages or issues with Blackboard will be reported by the personnel at TAMU that are responsible for technology.

VI. What to Expect Regarding Instructor Interaction/Feedback

1. I will generally return assignments within 14 days of the date the assignment is due—often sooner. On very rare occasion, circumstances might prevent me from honoring this rule and students will be informed of the reason for the delay via email or the “Start Here” board. If you are timely in handing in assignments, I will do my best for a timely return of your assignments. If your assignments are late, they will be graded at my convenience.

2. I will check the first forum “Students Helping Students” on the discussion board Monday-Saturday. This is the forum where you can ask questions about the course expectations, assignment expectations etc. I encourage you to HELP EACH OTHER answer your questions also.

VII. Assignments (see eCampus “Assignments” tab for additional instructions and rubrics on each assignment.)
1. **Interview with an Older Adult Learner**: You will interview an adult age 60 or older and tie the literature you have read in class to the interview information. This paper is 4-6 pages **not** including title page, references, and any other extraneous pages. **See “Assignments” tab for guidelines and rubric.**

**150 points: Due February 24th, 2019**

2. **Weekly Reading Survey Submission: Due: Weekly starting Week 3**

   **This is an assignment that is modified from Stephen Brookfield’s Critical Incident Questionnaire. Starting on Week 3, you will be required to submit this Questionnaire weekly. Submission of this assignment begins on Week 3. The first submission is due February 3rd until the end of the course.** This assignment is worth 20 points a week. Thoughtful, complete, well-reasoned responses are ideal. One or two sentence responses with little explanation or reference to the readings will receive fewer points. There are four (4) questions you need to respond to each week.

   **200 points (20 points per week)**

   **See Rubric for further details. The Reading Survey and Grading Rubric can be found under “Assignments and Rubrics.”**

3. **Final Paper Proposal:** This paper proposal should include a purpose and thesis statement and you should demonstrate the “angle” or position you are going to take in your paper. Additionally, some references should be listed to demonstrate that your topic is viable. This assignment is not graded. However, topic approval is required for your final paper. The proposal can be as long or short as you want it to be. Generally, it should be at least one double spaced page. The more information you have, the better idea I am able to obtain of where you are going with your topic and what you want to argue. This **I will be reviewing these March 3rd**. This is not graded. It is for your benefit.

   **Due March 3rd: no points; approval of topic needed**

4. **Reading and Reflection Roles and Portfolio:** Reading Group Role Sheets can be found under “Assignments and Rubrics.”

   **300 points: Due April 21st, 2019**

   These groups will be formed **by the second week of class.** You will be assigned to these same groups for the duration of the course. You will get together via
telephone, or online via Skype or some other technology to discuss your readings in real-time. Potential options for virtual real-time connection include:

- Google+ Hangouts
- Web-EX
- Skype
- Facetime (Apple)
- Zoom
- Freeconferencecalling.com (a personal favorite—very easy and free to set up a telephone conference call). Please note: If you want to use this as an option for your group, you will need to have at least one group member or more obtain their own account in order to host calls. The number on this syllabus is my account and I receive the reports for it.

Your group will decide how you want to meet. You will meet to discuss the readings.

Reading & Reflection (R&R) Roles serve a similar function to “project teams” or “collaborative learning groups” in education. By breaking the class into small groups, with defined roles each week, students learn with and about each other—often based on personal experiences. Participants get to know each other intellectually, emotionally, and spiritually. In this way, knowledge is shared and new knowledge is created.

For the R&R Roles to work effectively, every member needs to thoroughly read the assigned material. Skimming the material will be an ineffective use of your time and short change the learning of your group members. It will also be apparent on your pre-sheets and you will earn a lower grade.

The class will be divided into three Reading Groups with each group having 6-8 members. Each member assumes a different role for each Reading Group session. Roles are identified on the PrepSheets distributed in class. There are 7 roles.

The Barnacle should only be used in emergency or when life just interferes. It does not have to be used every week.

Groups need to meet every week. They cannot decide to all use their Barnacle on the same week.

If your group has more than 7 people, roles can be duplicated after all are covered. If you have fewer than 7 people in your group, the roles that are most important for good group processing are: Debrief (required), Ring Leader, and Engineer.

1. **Ringleader:** Introduces topics of conversation or moves discussion forward.
2. **Engineer:** The engineer’s first task is to look for resources outside of the weekly assigned readings to help make connections/indicate disparities with concepts and themes. The second role is to look for ties between past R&R readings/meetings to help keep learning fresh, current, and relevant.
3. **Debrief:** First, the Debrief (required) writes a 3-5 paragraph summary of the R&R meeting for that week. This includes general topics discussed and questions raised (take care not to breach team confidentiality). Second, this member will email a copy of this debriefing to the instructor no later than 11 pm Central Time the Sunday it is due.
4. **10th person:** It is the job of the 10th person to disagree with the majority. The term “10th Person” could be used synonymously with “Devil’s Advocate.” Simply put, if 9 people agree on something there must be a 10th who argues the/opposing view.

5. **Highlighter:** This member selects text passages/excerpts from the readings that stood out as poignant or noteworthy.

6. **Wordsmith:** The job of the Wordsmith is to develop a list of words/concepts that are integral to the understanding of the reading.

7. **Artist:** The Artist is arguably the most creative of the R&R roles. This member should look for non-academic related resources to connect the weekly readings to the outside world.

8. **Barnacle:** The Barnacle is the freeloader of the group. This role can only be used ONCE during the semester per person with no penalties for grading. The Barnacle role does not need to be covered each week but all other roles need to be covered each week if you have 7 people.

Each member will prepare for and fulfill each role at least once during the semester. Participants prepare response activities from the Prep Sheets; An electronic version of these will be posted on [http://ecampus.tamu.edu](http://ecampus.tamu.edu). (See assignments and rubrics) Prep Sheets should be completed before your group meets.

Reading Groups are for discussions; you should not complete the Prep Sheets during your meeting. You may, however, make notes during the meeting. At the end of each session, you should compile your completed Prep Sheets into a designated document that you will turn into the instructor at the end of the semester. This document constitutes the participant’s Portfolio that will function as a significant part of the final grade and which is turned in on **APRIL 21, 2019**

**Your reading Group Session must have their discussion no later than 11:00 pm Sunday of each week. [You can set earlier deadlines].**

*The Portfolio is due April 21 2019.* This is a collection of your Role Sheets in sequential order by weeks. Roles will be completed for all the weeks in which we have Reading Group discussions—starting the 3rd week of class. There should be a sheet for each week of readings in your portfolio. **Role sheets are available under “Assignments and Rubrics” in E-campus.**

The Portfolio should have a 6-9 page introduction (essay) (excluding abstract, references, title page and any other extraneous pages) that reports on the intellectual, emotional, and spiritual learning and growth that has occurred during the class and references your group meetings in some way. Portfolios should also include all reading group role sheets plus any other materials that you wish to include (e.g. any handouts you might have sent to your reading group during the semester etc). **PLEASE ALSO REMEMBER TO INCLUDE A PEER REVIEW SHEET THAT INCLUDES ALL GROUP MEMBERS AND YOUR ASSESSMENT OF THEIR PERFORMANCE.** The order of the portfolio should be: (1) essay, (2) YOUR role sheets, (3) Peer evaluations.
Due April 23: 300 points

5. **Final Paper (Due April 28th):** The purpose of the major research paper is to provide students with the opportunity to critically analyze a specific topic or problem related to the course. Students will be required to undertake **substantial** library research and prepare a paper between thirteen (13) and twenty (20) pages NOT including references, title page, appendixes, and any other “non-content” pages. The paper is expected to adhere to APA standards. The paper needs to be related to some aspect of course material. All topics require approval. A written proposal of the topic and a brief list of sources is preferred.

350 points: Due April 28th, 2019

VIII: Updates and announcements will appear on the START HERE page or via email. Please check these sources regularly.

**READING SCHEDULE FOR EHRD 647**

**NOT ALL READINGS ARE IN “Course Modules.”** There may be additional readings from the texts each week in addition to materials in each week of session materials.


<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Assignment/Readings due</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 14-20 (Week 1)</td>
<td>Intro to Course/Discussion of Syllabus Establish online course discussion board rules</td>
<td>Meet in real time at on January 17th, 2019 from 6-7:15 pm CT</td>
</tr>
<tr>
<td>January 21-27 (Week 2)</td>
<td>Getting Our Feet Wet/Intergenerational Learning</td>
<td>Readings under Week 2 (PDFs)</td>
</tr>
<tr>
<td>January 28th-Feb 3 (Week 3)</td>
<td>Foundations: Older Adult Development and Learning</td>
<td>Whitbourne &amp; Whitbourne (W&amp;W): Chapters 1, 2, 3 Findsen &amp; Formosa: (F &amp; F): Chapters 1 &amp; 2</td>
</tr>
<tr>
<td>February 4-10 (Week 4)</td>
<td>Definitions of AE/Lifelong Learning, Learning Society,</td>
<td>Findsen &amp; Formosa (F&amp; F): Chapters: 3, 4 &amp; 5.</td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Readings</td>
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<tr>
<td>February 11-17 (Week 5)</td>
<td>and History and Development of Older Adult Learning</td>
<td>Readings under Week 4 (PDFs)</td>
</tr>
<tr>
<td>February 18-24 (Week 6)</td>
<td>Psychology of Older Adult Learning (cognition/physiology)</td>
<td>W &amp; W: Chapters 6 and 7 F &amp; F: Chapter 6</td>
</tr>
<tr>
<td>February 25-March 3 (Week 7)</td>
<td>Older Adults: Sociological Perspectives, Rationales, Geragogy</td>
<td>F &amp; F: Chapters 7, 8, 9 Reading under Week 6 Older Adult Interview Paper Due</td>
</tr>
<tr>
<td>March 4-10 (Week 8)</td>
<td>Participation and Barriers to Learning Final Paper Proposal Due</td>
<td>F &amp; F: Chapter 10 Readings under Week 7 Final Paper Proposal Due</td>
</tr>
<tr>
<td>March 11-17 (Week 9)</td>
<td>Learning in informal and non-formal contexts SPRING BREAK—NO CLASSES</td>
<td>SPRING BREAK—NO CLASSES</td>
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<tr>
<td>March 18-24 (Week 10)</td>
<td>Learning in informal and non-formal contexts</td>
<td>F &amp; F: Chapter 12 Readings under Week 10</td>
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<tr>
<td>March 25-31 (Week 11)</td>
<td>Older adults and technology</td>
<td>Readings under Week 11</td>
</tr>
<tr>
<td>April 1-7 (Week 12)</td>
<td>Issues for older adults (ageism, policy)</td>
<td>Readings under Week 12</td>
</tr>
<tr>
<td>April 8-14 (Week 13)</td>
<td>Successful Aging</td>
<td>W &amp; W: Chapter 14 Readings under Week 13</td>
</tr>
<tr>
<td>April 15-21 (Week 14)</td>
<td>Portfolio DUE</td>
<td>Portfolio DUE</td>
</tr>
<tr>
<td>April 22-April 28 (Week 15)</td>
<td>FINAL PAPER DUE</td>
<td>FINAL PAPER DUE</td>
</tr>
<tr>
<td>May 1-7 (Week 16)</td>
<td>Optional individual conferences</td>
<td>Time arranged this week with individual students.</td>
</tr>
</tbody>
</table>

**Americans with Disabilities Act (ADA)**
The Americans with Disabilities Act (ADA) 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. Find more info at: [http://disability.tamu.edu](http://disability.tamu.edu). Departmental emergency evacuation requirements require that if you feel accommodations will be needed, you to fill out disability information form and provide a class schedule for the current semester. The forms are available in the main office, 511 Harrington Tower.

**Academic Integrity**
For additional information please visit: [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor)
“An Aggie does not lie, cheat, or steal, or tolerate those who do.”
All TAMU students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the work submitted is their own work. If the student cannot authenticate his/her work, the instructor can initiate an academic dishonesty case. Students who participate in any of these activities will earn a failing grade in my classes and will be subject to University disciplinary action.
Course Change Request

Viewing: MARB 633 : Applied Bioinformatics

Last approved: 06/23/17 3:24 am
Last edit: 08/10/18 2:34 pm
Changes proposed by: ballr

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel Ball</td>
<td><a href="mailto:ballr@tamug.edu">ballr@tamug.edu</a></td>
<td>409-740-4531</td>
</tr>
</tbody>
</table>

Rationale for Course

The proposed changes are to meet the demand/interest of students.

Course prefix  MARB  
Course number  633  
Department  Marine Biology  
College/School  Galveston Campus  
Academic Level  Graduate  
Effective term  2019-2020 2017-2018  

Complete Course Title  Applied Bioinformatics  
Abbreviated Course Title  APPLIED BIOINFORMATICS  

Catalog course description

Fundamental concepts and methods in bioinformatics using sequence analysis and practical applications; includes biological databases, sequence and structure alignments, structural bioinformatics, gene prediction and genome analysis; emphasis on the understanding and application of these concepts.

Prerequisites and Restrictions

Graduate classification or approval of instructor.

Should catalog prerequisites / concurrent enrollment be enforced?

No

Crosslistings

No  Crosslisted With

Stacked

Yes  Stacked with

MARB 433 - Applied Bioinformatics

In Workflow

1. MARB Department Head  
2. Curricular Services Review  
3. GV Committee Preparer GR  
4. GV Committee Chair GR  
5. GV College Dean GR  
6. GC Preparer  
7. GC Chair  
8. Faculty Senate Preparer  
9. Faculty Senate  
10. Provost II  
11. President  
12. Curricular Services  
13. Banner  

Approval Path

1. 08/09/18 1:10 pm  
Jaime Alvarado-Bremer (jaimeab): Approved for MARB Department Head  
2. 08/09/18 3:36 pm  
Terra Bissett (t.bissett): Rollback to Initiator  
3. 08/10/18 3:54 pm  
Jaime Alvarado-Bremer (jaimeab): Approved for MARB Department Head  
4. 08/13/18 9:06 am  
Terra Bissett (t.bissett): Approved for Curricular Services Review  
5. 09/05/18 3:25 pm  
Nicole Kinslow (wilkinsn): Approved for GV Committee Preparer GR  
6. 10/01/18 3:33 pm  
Antonietta Quigg (quigga): Approved for GV Committee Chair GR  
7. 10/01/18 3:34 pm  
Antonietta Quigg (quigga): Approved for GV College Dean GR  
8. 10/29/18 8:49 am  
LaRhesa Johnson (lrjohnson): Approved for GC Preparer  
9. 11/01/18 3:45 pm  
LaRhesa Johnson

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate
<table>
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<tr>
<td>Credit</td>
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<tr>
<td>Hour(s)</td>
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<table>
<thead>
<tr>
<th>Contact Hour(s)</th>
<th>3</th>
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<tbody>
<tr>
<td>Lecture:</td>
<td>30</td>
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<table>
<thead>
<tr>
<th>Total</th>
<th>63</th>
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<tbody>
<tr>
<td>Lecture:</td>
<td>30</td>
</tr>
<tr>
<td>Lab:</td>
<td>30</td>
</tr>
<tr>
<td>Other:</td>
<td>0</td>
</tr>
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</table>

Repeatable for credit? No

CIP/Fund Code 2611030002

Default Grade Mode Lecture Grade (G)

Method of instruction Lecture

Lecture and Laboratory

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) No

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

<table>
<thead>
<tr>
<th>Program(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MS-MARB) Master of Science in Marine Biology</td>
</tr>
<tr>
<td>(PHD-MARB) Doctor of Philosophy in Marine Biology</td>
</tr>
</tbody>
</table>

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus MARB 633- Bioinformatics_Syllabus (Spring 2018).docx

MARB 633 - Spring 2020.pdf

Letters of support or other documentation No Yes

Additional information Updated syllabus now attached.

Adding lab to course to change from 3 credit hours to 4 credit hours.

Reviewer Comments Terra Bissett (t.bissett) (08/09/18 3:36 pm): Rollback: Syllabus: Please include reference to university excused absences under later submission penalty.

Terra Bissett (t.bissett) (08/13/18 9:05 am): Updates received.
For the best experience, open this PDF portfolio in Acrobat X or Adobe Reader X, or later.

Get Adobe Reader Now!
Thanks for reaching out to Wayne, John. As long as Biology has no objection, I certainly don’t.

Best,

Tim

From: Wayne Versaw [mailto:wversaw@bio.tamu.edu]
Sent: Monday, October 3, 2016 2:12 PM
To: John Schwarz <schwarzj@tamug.edu>
Cc: Donna Lang <langd@tamug.edu>; Scott, Timothy P <tim@science.tamu.edu>; Christine Farris <cfarris@bio.tamu.edu>
Subject: Re: Proposed Bioinformatics Course

Dear Dr. Schwarz,

Thank you for your descriptions of the MARB 433/633 courses and the expected student clientele. I also appreciate the background information on how courses are reviewed/approved at our sister campuses. The Department of Biology will have no objection to your offering these courses.

Best regards,
Wayne Versaw

Wayne K. Versaw
Associate Head for Academic Affairs
Department of Biology
Texas A&M University
3258 TAMU
College Station, TX 77843-3258

Tel: 979-847-8587
Fax: 979-845-2891
wversaw@tamu.edu
Course title and number  MARB 633 – Applied Bioinformatics
Term  Spring 2020
Meeting times and location  Tuesday and Thursday, 9:35-10:50 am, CLB 112 (lectures)
                                      Wednesday 2:00-4:50, PMEC 242 (lab)

Course Description and Prerequisites

Fundamental concepts and methods in bioinformatics using sequence analysis and practical applications; includes biological databases, sequence and structure alignments, structural bioinformatics, gene prediction and genome analysis; emphasis on the understanding and application of these concepts.

With growing amount of sequence data generated, the main objective of this course is to help the students in being able to use cutting-edge bioinformatics tools to solve problems from their own research and in their professional work.

For the assignments, graduate students will have the opportunity to work with their own sequence data to advance their research project instead of the provided data.

Prerequisites: Graduate Student Classification

This course does assume that the students have some familiarity with the use of computers and the internet.

Learning Outcomes or Course Objectives

1. Identify the challenges and opportunities in bioinformatics applications.
2. Use computational tools to study biological systems.
3. Apply different computer programs and methodologies for various biological analyzes.
4. Describe and differentiate common algorithms for studying and processing biological sequence data.
5. Define the corresponding data needed for addressing specific bioinformatics questions.
6. Analyze and discuss the results for biological applications.

Instructor Information

Name  Dr. Jessica Labonté
Telephone number  (409) 740-4921
Email address  labontej@tamug.edu
Office hours  Anytime, by appointment
Office location  OSCB 267
Textbook and/or Resource Material

There are no required textbooks for this course. Weekly readings will be posted on eCampus at least the week before class.

Suggested textbooks:

Grading Policies

<table>
<thead>
<tr>
<th>Assignment</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment #1 (BLAST, multiple sequence alignment, and phylogenetic analysis)</td>
<td>15</td>
</tr>
<tr>
<td>Assignment #2 (Community analysis)</td>
<td>15</td>
</tr>
<tr>
<td>Assignment #3 (Gene syntheny)</td>
<td>10</td>
</tr>
<tr>
<td>Assignment #4 (Protein structure)</td>
<td>10</td>
</tr>
<tr>
<td>Exercises</td>
<td>5</td>
</tr>
<tr>
<td>Group project (laboratory)</td>
<td>25</td>
</tr>
<tr>
<td>Final examination</td>
<td>20</td>
</tr>
</tbody>
</table>

Grade  | A: 90-100 | B: 80-89 | C: 70-79 | D: 60-69 | F: < 60 |

Late submissions for any assignment incur a 10% penalty for each day the submission is late. Please see the Make-Up Policy listed below.
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic - Lectures</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Syllabus, Introduction and getting familiar with computer environments Linux and R</td>
<td>Exercise on Linux</td>
</tr>
<tr>
<td>2</td>
<td>Linux and R part 2 Biological databases</td>
<td>Exercise on R</td>
</tr>
<tr>
<td>3</td>
<td>Pairwise sequence alignment Database similarity searching</td>
<td>Exercise on database and similarity searching</td>
</tr>
<tr>
<td>4</td>
<td>Multiple sequence alignment</td>
<td>Exercise on multiple sequence alignment</td>
</tr>
<tr>
<td>5</td>
<td>Phylogenetic reconstruction methods</td>
<td>Exercises on phylogeny</td>
</tr>
<tr>
<td>6</td>
<td>Sequencing technologies and handling sequence data Metagenomics and transcriptomics (functional genomics)</td>
<td>Group Project - session #1 (Identify the objectives and hypotheses)</td>
</tr>
<tr>
<td>7</td>
<td>How to install softwares Community diversity analysis</td>
<td>Group Project – Session #2 Data handling and quality control</td>
</tr>
<tr>
<td>8</td>
<td>Genome mapping and assembly</td>
<td>Group Project – Session #3 Assembly</td>
</tr>
<tr>
<td>9</td>
<td>Gene syntheny and horizontal gene transfer Exercise on gene syntheny</td>
<td>Group Project – Session #4 Binning</td>
</tr>
<tr>
<td>10</td>
<td>Gene prediction</td>
<td>Group project – Session #5 Gene prediction and annotations</td>
</tr>
<tr>
<td>11</td>
<td>Protein structure Protein structure and visualization</td>
<td>Exercise on protein structure</td>
</tr>
<tr>
<td>12</td>
<td>Finding motifs Promoter and regulatory elements prediction</td>
<td>Group Project - Session #6 Data analysis part I</td>
</tr>
<tr>
<td>13</td>
<td>RNA structure prediction</td>
<td>Group project – Session #7 Data analysis part II</td>
</tr>
<tr>
<td>14</td>
<td>Group Project final presentations</td>
<td>Exercise on RNA structure prediction</td>
</tr>
</tbody>
</table>

* Assignment #1 is due by Friday
* Assignment #2 is due by Friday
* Assignment #3 is due by Friday
* Assignment #4 is due by Friday

* Final report for the Group Project is due by Friday

* This schedule is subject to minor changes, depending on the progression of the class.
Attendance and make-up policies

Information concerning absences is contained in the University Student Rules Section 7 (http://www.tamug.edu/stulife/Academic_Rules/7_Attendance.html). The University views class attendance as an individual student responsibility. All students are expected to attend class and to complete all assignments. Please consult the University Student Rules for reasons for excused absences, detailed procedures and deadlines as well as student grievance procedures (Part III, Section 45).

Make-up Policy

If an absence is excused, the instructor will either provide the student an opportunity to make up any quiz, exam or other work that contributes to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. If the instructor has a regularly scheduled make up exam, students are expected to attend unless they have a university approved excuse. The make-up work must be completed in a timeframe not to exceed 30 calendar days from the last day of the initial absence. The reasons absences are considered excused by the university are listed below. See Student Rule 7 for details (http://www.tamug.edu/stulife/Academic_Rules/7_Attendance.html). The fact that these are university-excused absences does not relieve the student of responsibility for prior notification and documentation. Failure to notify and/or document properly may result in an unexcused absence. Falsification of documentation is a violation of the Honor Code.

1) Participation in an activity that is required for a class for which a University excused absence has been issued by the Vice President for Academic Affairs.

2) Death or major illness in a student's immediate family.

3) Illness of a dependent family member.

4) Participation in legal proceedings or administrative procedures that require a student's presence.

5) Religious holy day. NOTE: Prior notification is NOT required.

6) Injury or illness that is too severe or contagious for the student to attend class.
   a) Injury or illness of three or more class days:
      Student will provide a medical confirmation note from his or her medical provider within one week of the last date of the absence (see Student Rules 7.1.6.1)
   b) Injury or illness of less than three class days:
      Student will provide one or both of these (at instructor’s discretion), within one week of the last date of the absence:
      (i) Texas A&M University Explanatory Statement for Absence from Class form available at http://www.tamug.edu/stulife/Absence%20Statement.pdf or (ii) Confirmation of visit to a health care professional affirming date and time of visit.

7) Required participation in military duties.

8) Mandatory admission interviews for professional or graduate school that cannot be rescheduled.

Other absences may be excused at the discretion of the instructor with prior notification and proper documentation.
Americans with Disabilities Act (ADA)

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 Counseling Office, Seibel Student Center, or call (409)740-4587. For additional information visit http://www.tamug.edu/counsel/Disabilities.html.

Academic Integrity

For additional information please visit: http://www.tamug.edu/HonorSystem

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

TO: Mr. Michael K. Young
    President

FROM: Dr. Karan L. Watson
      Provost and Executive Vice President

SUBJECT: December 12, 2016 Faculty Senate Items

All of the attached December 2016 Faculty Senate items have been reviewed and approved by college, university curriculum, Faculty Senate and Office of the Provost.

New Course Requests, Course Change Requests, Course Withdrawal Requests, Change in Curriculum Requests, W-Courses

Approval recommended. FS.34.141; FS.34.142; FS.34.143; FS.34.145; FS.34.146; FS.34.147; FS.34.148; FS.34.160; FS.34.161; FS.34.162; FS.34.163; FS.24.164; FS.34.165; FS.34.166; FS.34.167; FS.34.168; FS.34.169; FS.34.170; FS.34.171; FS.34.172; FS.34.173; FS.34.174; FS.34.175; FS.34.176; FS.34.181; FS.34.182; FS.34.183; FS.34.184; FS.34.185; FS.34.186; FS.34.187; FS.34.188; FS.34.189; FS.34.190; FS.34.191; FS.34.192; FS.34.193; FS.34.194; FS.34.195; FS.34.196; FS.34.197; FS.34.198; FS.34.199; FS.34.200; FS.34.201; FS.34.202; FS.34.203; FS.34.204; FS.34.205; FS.34.206; FS.34.207; FS.34.208; FS.34.209; FS.34.210; FS.34.211; FS.34.212; FS.34.213; FS.34.214; FS.34.215; FS.34.216; FS.34.217; FS.34.218; FS.34.219; FS.34.220; FS.34.221; FS.34.238; FS.34.240; FS.34.242; FS.34.243.

FS.34.144: Approval recommended. Course Inactivation's—The focus for the graduate program that required these courses has changed to research.

FS.34.149: Approval recommended. New graduate certificate request. School of Public Health, Certificate for Health Coaching for Chronic Disease Prevention and Management requires 12 SCH, on-campus and 100% distance delivery. Per Texas Administrative Code [TAC] Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.150: Approval recommended. New graduate certificate request. Mays Business School, Certificate in Data Analysis requires 12 SCH, on-campus delivery. Per Texas Administrative Code [TAC] Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.151: Approval recommended. New graduate certificate request. Mays Business School, Certificate in Finance requires 12 SCH, on-campus delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.
FS.34.152: Approval recommended. New graduate certificate request. Mays Business School, Certificate in Marketing requires 12 SCH, on-campus delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.153: Approval recommended. New graduate certificate request. Mays Business School, Certificate in Supply Chain and Operations requires 12 SCH, on-campus delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.154: Approval recommended. New graduate certificate request. College of Agriculture and Life Sciences, Certificate in Extension Education requires 14 SCH, on-campus and 80% DE/Internet delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.155: Approval recommended. New graduate certificate request. College of Agriculture and Life Sciences, Certificate in Advanced Pedagogy in Agriculture requires 14 SCH, on-campus and 100% DE/Internet delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum SCH that require THECB approval. Effective fall 2017.

FS.34.156: Approval recommended. New graduate certificate request. College of Engineering, Certificate in Nuclear Security requires 12 SCH, on-campus and 80% DE/Internet delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.157: Approval recommended. New graduate certificate request. College of Liberal Arts, Certificate in International Communication and Public Diplomacy requires 12 SCH, on-campus delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.158: Approval recommended. New graduate certificate request. Mays Business School, Certificate in Business Intelligence and Analytics requires 12 SCH, on-campus delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.159: Approval recommended. New graduate certificate request. Bush School of Government & Public Service, Certificate in Public Management requires 12 SCH, on-campus and 100% DE/Internet delivery. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. Effective fall 2017. No action required.

FS.34.177: Approval recommended. Request to add a concentration. College of Agriculture & Life Sciences, BS in Agricultural Economics-Food Marketing Systems Concentration. Request does not change total SCH [120]. No action required.

FS.34.178: Approval recommended. Request to add an option. College of Agriculture & Life Sciences, BS in Agricultural Economics-Finance & Real Estate Option. Request does not change total SCH [120]. No action required.
FS.34.179: Approval recommended. Request to add an option. College of Agriculture & Life Sciences, BS in Policy and Economic Analysis Option. Request does not change total SCH [120]. No action required.

FS.34.180: Approval recommended. Request to add an option. College of Agriculture & Life Sciences, BS in Rural Entrepreneurship Option. Request does not change total SCH [120]. No action required.

FS.34.223: Approval recommended. Request to add a new concentration. College of Liberal Arts, BS in University Studies–Health Humanities Concentration. Request does not change total SCH [120]. No action required.

FS.34.224: Approval recommended. New undergraduate certificate. College of Liberal Arts, Certificate in Healthy Development requires 15 SCH. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. No action required.

FS.34.225: Approval recommended. New undergraduate certificate. College of Engineering, Certificate in Zachry Leadership requires 15 SCH. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. No action required.

FS.34.226: Approval recommended. New undergraduate certificate. College of Liberal Arts, Certificate in Work and Organizations requires 15 SCH. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. No action required.

FS.34.227: Approval recommended. New undergraduate certificate. College of Liberal Arts, Certificate in Applied Behavioral Health requires 15 SCH. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. No action required.

FS.34.228: Approval recommended. New undergraduate certificate. College of Engineering, Certificate in Petroleum Ventures requires 25 SCH. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate surpasses the maximum allowed SCH.

EXTERNAL ACTION: A 50-mile notification will be sent and the THECB New Program Request Form for Certificate Programs will be submitted to the System by the Office of the Provost after approval.

FS.34.229: Approval recommended. New undergraduate certificate. College of Liberal Arts, Certificate in Psychology of Diversity requires 15 SCH. Per TAC Title 19, Chapter 5, Subchapter C, Rule §5.48 the certificate does not surpass the maximum allowed SCH. No action required.

FS.34.230: Approval recommended. New undergraduate minor. College of Agriculture & Life Sciences, Minor in AgriFood Sales requires 16 SCH. Does not surpass maximum allowed. No action required.


FS.34.233: Approval recommended. College of Liberal Arts, proposal to inactivate Gender and Leadership Certificate. There are four students currently enrolled in the program with a projected graduation date of 5/2018.

EXTERNAL ACTION: Send notification to SACSCOC.

FS.34.234: Approval recommended. College of Liberal Arts, proposal to inactivate Global Perspectives in Liberal Arts Certificate. Program inactivation due to lack of interest. There are no students currently enrolled in the program.

EXTERNAL ACTION: Send notification to SACSCOC.

FS.34.235: Approval recommended. College of Liberal Arts, proposal to inactivate Global Sociology Certificate. Program inactivation due to lack of interest. There are two students currently enrolled in the program with a graduation date of 5/2018.

EXTERNAL ACTION: Send notification to SACSCOC.

FS.34.236: Approval recommended. College of Liberal Arts, proposal to inactivate Sociology of Gender Certificate. Program inactivation due to lack of interest. There are three students currently enrolled in the program with a graduation date of 5/2018.

EXTERNAL ACTION: Send notification to SACSCOC.

FS.34.237: Approval recommended. College of Liberal Arts, proposal to Inactivate Sociology of Race and Ethnicity Certificate. Program inactivation due to lack of interest. There are two students currently enrolled in the program with a graduation date of 5/2018.

EXTERNAL ACTION: Send notification to SACSCOC.

FS.34.239: Approval recommended. Six courses for Core Curriculum Language, Philosophy and Culture foundational component; two courses for Creative Arts foundational component; one course for Life and Physical Sciences foundational component; two International and Cultural Diversity designation; and seven courses submitted for recertification as Core Curriculum.

FS.34.241: Approval recommended. School of Law special consideration regarding Pass/Fail grading. Request establishes a new grading scheme for electives to better reflect the rigor demanded without lowering the standards for classes that students elect to take on a pass/fail basis. The grading scheme will be a grading option for all elective Law School courses and only applies to the Juris Doctor Program.

FS.34.244: Approval recommended. College of Veterinary Medicine & Biomedical Sciences, curriculum change for the Doctor of Veterinary Medicine in Veterinary Medicine. The request will balance out a discrepancy in SCH between the catalog, COMPASS, and the THECB Program Inventory.

EXTERNAL ACTION: A Request to Change the Semester Hours form will be submitted to the THECB.

FS.34.245: Approval recommended. Student Rule 14.1—Degree requirements.

FS.24.246: Review Only: Certification of December 2016 Graduates

Attachments
Course Change Request

Date Submitted: 10/05/18 8:05 am

Viewing: **OCNG 604 : Ocean Observing Systems**

Last edit: 10/05/18 4:58 pm
Changes proposed by: sara.baber

Catalog Pages referencing this course
- Department of Oceanography
- OCNG - Oceanography

Programs referencing this course
- CERT-CG41: Ocean Observing Systems - Certificate
- BS/MOS-ENGS/OCST-GOC: Environmental Geosciences - 5-Year Bachelor of Science/Master of Ocean Science and Technology
- BS/MOS-METR/OCST-GOC: Meteorology - 5-Year Bachelor of Science/Master of Science

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sara Baber</td>
<td><a href="mailto:sara.baber@tamu.edu">sara.baber@tamu.edu</a></td>
<td>979-845-2734</td>
</tr>
</tbody>
</table>

Rationale for Course

Edit
- Other

Explain other rationale
- Update to this course for distance learning equivalency

Course prefix  | OCNG | Course number | 604
Department     | Oceanography
College/School | Geosciences
Academic Level | Graduate
Academic Level (alternate) | Undergraduate
Effective term | 2018-2019 Spring

Complete Course Title
- Ocean Observing Systems

Abbreviated Course Title
- OCEAN OBSERVING SYSTEMS

Catalog course description
- Investigate the rationale behind ocean observing systems; familiarize with the relevant social, scientific design, technology, and policy issues associated with observing systems.

Prerequisites and Restrictions
- Approval of instructor.
Concurrent Enrollment | No
Should catalog prerequisites / concurrent enrollment be enforced? | No
Crosslistings | No

In Workflow

1. OCNG Department Head
2. Curricular Services Review
3. GE Committee Preparer GR
4. GE Committee Chair GR
5. GE College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path

1. 10/04/18 9:37 pm
   Shari Yvon-Lewis (syvon-lewis): Rollback to Initiator
2. 10/05/18 9:24 am
   Shari Yvon-Lewis (syvon-lewis): Approved for OCNG Department Head
3. 10/05/18 5:00 pm
   Terra Bissett (t.bissett): Approved for Curricular Services Review
4. 10/08/18 8:37 am
   Roxanna Russell (rrussell): Approved for GE Committee Preparer GR
5. 10/08/18 9:18 am
   Christian Brannstrom (cbrannst): Approved for GE Committee Chair GR
6. 10/08/18 3:39 pm
   Christian Brannstrom (cbrannst): Approved for GE College Dean GR
7. 10/29/18 8:50 am
   LaRhesa Johnson (lrjohnson): Approved for GC Preparer
8. 11/01/18 3:45 pm
   LaRhesa Johnson (lrjohnson): Approved for GC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate
OCNG 604: Ocean Observing Systems

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<thead>
<tr>
<th>Stacked</th>
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<tbody>
<tr>
<td>Semester Credit Hour(s)</td>
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<td></td>
</tr>
<tr>
<td>Contact Hour(s) (per week): Lecture: 0 Lab: 0 Other: 3 Total 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatable for credit?</td>
<td>No Yes</td>
<td></td>
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<tr>
<td>Three-peat?</td>
<td>Yes</td>
<td></td>
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<tr>
<td>CIP/Fund Code</td>
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<td></td>
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<td>Letter Grade (G)</td>
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<tr>
<td>Alternate Grade Modes</td>
<td>Satisfactory/Unsatisfactory</td>
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<tr>
<td>Method of instruction</td>
<td>Lecture Practicum</td>
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<tr>
<td>Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education)</td>
<td>Yes</td>
<td></td>
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</tbody>
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Learning Outcomes

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

OCNG 604 online meets the same standards as the traditional course. Course equivalency, including Learning Outcomes, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

Hours

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

OCNG 604 online meets the same standards as the traditional course. Course equivalency, including Semester Credit Hours, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

Will this course be taught as a distance education course? Yes No

I verify that I have reviewed the FAQ for Export Control Basics for Distance Education. Yes No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? No

This will be a required course or an elective course for the following programs:

<table>
<thead>
<tr>
<th>Program(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MOS-OCST) Master of Ocean Science and Technology in Ocean Science and Technology</td>
</tr>
<tr>
<td>(MS-OCNG) Master of Science in Oceanography</td>
</tr>
<tr>
<td>(PHD-OCNG) Doctor of Philosophy in Oceanography</td>
</tr>
</tbody>
</table>
## Course Syllabus

<table>
<thead>
<tr>
<th>Syllabus:</th>
<th>Upload syllabus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upload syllabus</td>
<td><strong>OCNG_604_Online_Syllabus_10-4-18.pdf</strong></td>
</tr>
<tr>
<td></td>
<td><strong>OCNG_604_Fall2018_DIMARCO.pdf</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Letters of support or other documentation</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional information</td>
<td></td>
</tr>
<tr>
<td>Reviewer Comments</td>
<td><strong>Shari Yvon-Lewis (syvon-lewis) [10/04/18 9:37 pm]</strong>: Rollback: 2 things: First, this is also a required course in the Master of Ocean Science and Technology. You included the 3+2 programs but not the stand-alone 36 credit hours MOST degree. Second, this course cannot be repeated for credit. This looks like it was an original error in the course. It needs to be fixed.</td>
</tr>
<tr>
<td>Reported to state?</td>
<td><strong>No</strong></td>
</tr>
</tbody>
</table>

Key: 12144
COURSE SYLLABUS
OCNG 604 OCEAN OBSERVING SYSTEMS FALL 2018
Tuesday/Thursday, 11:10 AM - 12:25 PM O&M Room 602

Instructor:
Dr. Steven F. DiMarco, Professor and Ocean Observing Lead
Department of Oceanography
3146 TAMU
Office: 702C Eller O&M Building, GERG Room 137
Phone: 979-862-4168, 979-458-9323
Email: sdimarco@tamu.edu
Office Hours: 10-11 am TR and by appt.
Assistant: Laura Caldwell: 979-845-1231 lcaldwell@geos.tamu.edu

Objective: to inform a new generation of ocean professionals about the motivation, technical design, use, and operation, and policy issues associated with Ocean Observing Systems.

Course Description: The Report of the U.S. Commission on Ocean Policy has recommended that the United States implement the Integrated Ocean Observing System to “substantially advance our ability to observe, monitor, and forecast ocean conditions and to contribute significantly to global Earth observing capabilities”. During this class students will investigate the rationale behind ocean observing systems, and will familiarize them with the relevant social, scientific, design, technology, and policy issues associated with observing systems. Students will learn technical aspects of designing, implementing, and the operation of ocean observing systems. Students will also investigate policy issues associated with ocean observing systems such as societal relevance and expectations, international coordination and planning, and the roles of government, academic, and the private sector. Students will conceptualize and design elements of an ocean observing system with targeted applications.

Prerequisites: None.

Grading: 10% reading summaries, 45% nine data assignments (written), 20% RA Presentation (10% oral presentation, 10% written report), and 25% OOS project (15% oral presentation, 10% written report).

Grades will be based on the following grading system:
   91-100%=A, 81-90%=B, 71-80%=C, 61- 70%=D, and <60=F.

Course Topics:
1. Rationale and motivation for coastal and global ocean observing systems
2. Sampling and instrumentation strategies and backbone system design
3. IOOS and OOI
4. Data: telemetry, quality assurance, archival, dissemination
5. Regional enhancements: coastal versus global issues
6. Providers and users communities, societal impacts
7. Ocean Technology: Gliders, ARGO, HF Radar, Ocean Cables
8. Numerical model uses and misuses
9. The Role of Government, Academia and the Private Sector
10. Policy considerations and the politics of Ocean Observing

Class calendar:
See attached.

Learning Outcomes (Graduate students):
By taking this course, the student, upon completion, will be able to:
1. Understand and articulate the societal need for ocean observing systems;
2. Identify the principal global and national governmental agencies responsible for collecting, sustaining, and archiving long-term oceanographic observations;
3. Identify the scientific uses of ocean observing systems;
4. Understand the system design criteria, fundamental functional elements and communications of ocean observing systems;
5. Design a simple ocean observatory, including cost, stakeholders, and societal benefit;
6. Navigate online international and national oceanographic databases and download and graphically represent ocean observing data from multiple observational platforms;
7. Understand the role of government, the private sector, and academia in the design and use of ocean observing systems,
8. Orally communicate the function and relevance of a US federal agency in serving constituency stakeholders.

List of assignments:
Daily reading assignments will be given for each class. Summaries will be assigned during class and will be due the following class period.

Data Encounters: There are nine data encounters; students will complete tasks that requires discussing, accessing, and interpreting data from a specified ocean observing system. On some Encounters, graduate students may be asked to graph a dataset from the specified ocean observing system and provide some interpretation relevant to the dataset. Graduate students will be paired into small groups for some encounters.

DE1. NDBC TOGA Array.
DE2. ARGO Float Network.
DE3. The National Data Buoy Center and Gulf of Mexico Observatories.
DE5. Ocean Glider.
Presentations:
P1. RA summary. Students are each assigned a Regional Association and are asked to report on members, affiliation, data collected, data served, target communities, stakeholders. 12-minute presentation plus 5 page report. (due October 12, prior to midterm grades).

P2. OOS project. Students will be tasked with designing an OOS in a specific region of the world with specific ecosystem and observational objectives (of their choosing) and submit a written report and make an oral presentation based on independent research. 10 pages, include references. Graduate students will work in groups of two or three students. Additional guidelines will be distributed in class.

Required Materials:


Other required material: Other material to be covered include seminal papers on ocean observing systems and the Global Ocean Observing System. For example: W. D. Nowlin, Jr., *et al.*, 1996. An Ocean Observing System for Climate, *Bull. Of the Amer. Met. Soc.* 77(10), 2243-2273.

See list at end of syllabus and daily reading lists for more complete listing of readings.

Resources: The class will make use of the Texas Automated Buoy System (TABS) and the Texas HF Radar Network, the ocean observing system designed, operated, and maintained by the Geochemical and Environmental Research Group at Texas A&M University. We will likely have a field trip to GERG sometime during the semester. GCOOS website ([http://gcoos.org](http://gcoos.org)). Other useful resources: related NOAA websites and [http://www.oceanobservatories.org](http://www.oceanobservatories.org).

Course website: Google Team Drive. Check this site for readings and other information.

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
Copyright and Plagiarism Policy
The materials used in this course 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 which research cannot be safely communicated.

If you have any questions regarding plagiarism, please consult the latest issue of the *Texas A&M University Student Rules*, http://student-rules.tamu.edu, under the section “Scholastic Dishonesty.”

“Aggies do not lie, cheat, or steal, nor do they tolerate those who do.” Instances of scholastic dishonesty will be treated in accordance with Section 20 of the TAMU Student Rules. Please inform yourself on the student rules regarding cheating, plagiarism, fabrication of information, conspiracy at the new website: [www.tamu.edu/aggiehonor/](http://www.tamu.edu/aggiehonor/).

[http://www.tamu.edu/aggiehonor/](http://www.tamu.edu/aggiehonor/)
OCNG 604 Ocean Observing Systems
Tuesday-Thursday 11:10 AM – 12:25 PM
O&M Building Room 602
Instructor: Dr. Steven F. DiMarco
Phone: 979-862-4168

Fall 2018 Class Schedule (subject to change)
Note: Reading material MTSJ-I and MTSJ-II indicates Part I and Part II or required journal articles. OO21C indicates chapter in Smith and Koblinsky book.

August 28 and 30
Course Introduction
Course structure
Textbook, Reading materials
Grading Plagiarism, ADA
Rationale and Motivation of Ocean Observing Systems

Readings:

Acronyms and Abbreviations

*Willis, Z. Ocean Observing: Delivering the Benefits. MTSJ-I

September 4 and 6
GOOS and IOOS
Perspectives and Applications
Readings:
*Nowlin et al., An Ocean Observing system for climate, BAMS 77(10), 2243-2273, 1996.


OO21C Sections 3.1 and 3.5
September 11

The NOAA National Data Buoy Center Part 1: Global Arrays
The TOGA TAU Array and live data:
Reading:

Agency Linkages
Reading:
*Larsen et al. USGS Perspectives on an Integrated Approach to Watershed and Coastal Management. MTSJ-I
*Birkemeier et al. 2010. The Importance of Coastal Observations to Activities of the US Army Corps of Engineers. MTSJ-I
Basset et al. 2010. Implementaing the National IOOS – From the Federal Agency Perspective. MTSJ-I

Case Studies:
The case from the Deepwater Horizon Spill and the Gulf of Mexico Hurricanes: Katrina (2005), Ike (2008), Harvey (2017)
Readings:

September 13

Data Encounter DE1: TOGA Array

September 18

ARGOS Floats
Roualt et al. The Extension of PIRATA in the tropical south east Atlantic: an

Volunteer Observing Ships (VOS)

Cabled Ocean Observatories
NEPTUNE, LEO-15
Barnes et al. The NEPTUNE Canada Regional Cabled Ocean Observatory. Sea Technology Magazine 49(7), 10-14, 2008.

September 20
Data Encounter DE2: ARGO Data

September 25
Ocean Observing Instrumentation and Mooring Design

Texas Integrated Observing System: TABS, HF-Radar, Gliders
*Mullins et al. 2011. Interdisciplinary Ocean Observing on the Texas Coast. MTSJ-II
Reading: OO21C Section 4.3

EXTRA (Optional) ASSIGNMENT: Mooring Design
Principals of Mooring Design Mooring: Design Software Package Users Guide.

September 27
Data Encounter DE3: Gulf of Mexico NDBC

October 2
High Frequency/Coastal Radar
The HF Radar Network
ROWG and user groups
Reading:
*Harlan et al., 2010. TheIntegrated Ocean Observing System High-Frequency Radar Network: Status and Local, Regional, and National Applications. MTSJ-I.
October 4

**Data Encounter DE4: Hi-Frequency Radar**

October 9 and 11: Midterm Presentations
Graduate Student Presentation P1:
Regional Associations (October 9 and 11), report due 12 October

Undergraduate Regional Associations Reports: due October 11

October 16

Glider Basics and Operations
Reading material: provided by instructor

**Gliders and OOS**
Reading:
*Schofield et al. 2010. A Regional Slocum Glider Network in the Mid-Atlantic Bight Leverages Broad Community Engagement. MTSJ-I
*D. Rudnick, et al., JGR 2012.

October 18

Spatial Scales of Variability
Morse et al. 2003. Aquatic Geochemistry.

Optimal Array Design and OOS

Data Encounter DE5: Ocean Glider Data

October 23
Ocean Observing Initiative (OOI)
Design, rationale, system requirements, elements
Reading:
Cowles et al. MTSJ-I The Ocean Observatories Initiative: Sustained Ocean Observing Across a Range of Spatial Scales. Pp 54-64.

October 25
Data Encounter DE6: OOI Data

October 30
Multi-disciplinary observations
Elements of Ocean Observing System Design
Reading:
Jochens et al. MTSJ-I
Dickey and Bidegare, Interdisciplinary oceanographic observations: the wave
November 1

**Data Encounter DE7: OceanSites - HOT, BATS, Station Papa**

November 6

**Observing the Ocean from Space**

Reading: *OO21C* Sections 2.1, 2.2


**Data Management**

Data Collection, Transmission
Dissemination, Archival
Copyright/Property Rights

National Center for Environmental Information

Reading: DMAC Plan [selected items, will be distributed in class]


La Beaujardiere et al. MTSJ-I

November 8:

**Proposing**

**Data Encounter DE8. Ocean Satellite Data**

November 13

**The Role of Numerical Models**

Reading:

*Chaissignet et al. US GODAE: Global ocean prediction with the Hybrid Coordinate Ocean Model (HYCOM). Oceanography 22(1), 64-75, 2009.*


November 15

**Data Encounter DE9: Numerical Ocean Model Output (HYCOM)**

November 20

The Role of the Private Sector
Value-added Products
For Profit/Commercial Enterprise
Entrepreneurs
*H. L. Kite-Powell, Economic considerations in the design of ocean observing systems. Oceanography 22(2), 44-49, 2009.
*Tamburri et al., 2011. Alliance for Coastal Technologies. Advanced Moored pCO2 Instruments in Coastal Waters. MTSJ-II
*Gouldman et al., 2011. US Integrated Ocean Observing System and the Shellfish Growers Partnership. MTSJ-II
*Kite-Powell et al. 2011. The Value of Ocean Surface Wind Information for Maritime Commerce. MTSJ-II

Decision Making Practices and Societal Relevance
Reading: Thomas et al. 2010. IOOS Contributions to the Decision Making Process for Mariners and Coastal Managers. MTSJ-I
Berkson et al. 2010. IOOS Supports Marine Operations: A Look from the US Coast Guard. MTSJ-I
Ostrander et al. 2011. Contributions of the IOOS to National and Regional Coastal Hazards and Resource Information, Tools, and Services. MTSJ-II

Science and Observing Systems: the Role of Academia
Educating and Training the Workforce
Certification: National Weather Service model, MATE

Reading:

November 27 and 29

**Graduate Students P2 Presentations**: Design of an Ocean Observatory

**Undergraduate Jury**

December 4

Wrap up, perspective, the Future of Operational Oceanography


Course title and number	OCNG 604 Ocean Observing Systems
Term	Fall, 2019
Meeting times and location	Online

Course Description and Prerequisites

Description: The *Report of the U.S. Commission on Ocean Policy* has recommended that the United States implement the Integrated Ocean Observing System to “substantially advance our ability to observe, monitor, and forecast ocean conditions and to contribute significantly to global Earth observing capabilities”. During this class students will investigate the rationale behind ocean observing systems, and will familiarize them with the relevant social, scientific, design, technology, and policy issues associated with observing systems. Students will learn technical aspects of designing, implementing, and the operation of ocean observing systems. Students will also investigate policy issues associated with ocean observing systems such as societal relevance and expectations, international coordination and planning, and the roles of government, academic, and the private sector. Students will conceptualize and design elements of an ocean observing system with targeted applications.

Prerequisites: None

Learning Outcomes or Course Objectives

Course objective: to inform a new generation of ocean professionals about the motivation, technical design, use, and operation, and policy issues associated with Ocean Observing Systems.

Learning Outcomes

1. Understand and articulate the societal need for ocean observing systems;
2. Identify the principal global and national governmental agencies responsible for collecting, sustaining, and archiving long-term oceanographic observations;
3. Identify the scientific uses of ocean observing systems;
4. Understand the system design criteria, fundamental functional elements and communications of ocean observing systems;
5. Design a simple ocean observatory, including cost, stakeholders, and societal benefit;
6. Navigate online international and national oceanographic databases and download and graphically represent ocean observing data from multiple observational platforms;
7. Understand the role of government, the private sector, and academia in the design and use of ocean observing systems,
8. Orally communicate the function and relevance of a US federal agency in serving constituency stakeholders.

Instructor Information

Name	Dr. Steven F. DiMarco, Professor and Ocean Observing Team Lead
Department of Oceanography
Telephone number	979-862-4168 or 979-458-9323
Email
sdimarco@tamu.edu

Virtual Office Hours
Online, TBD

Virtual Office Hours Connectivity
Connectivity through WebEx, Canvas, or Canvas Conference

Email
All Texas A&M students should use their university-associated email accounts when emailing the instructor and teaching assistants

Textbook and/or Resource Material

Bureau of Meteorology, Melbourne, Australia.

Other required material: Other material to be covered include seminal papers on ocean observing systems and the Global Ocean Observing System. For example: W. D. Nowlin, Jr., et al., 1996. An Ocean Observing System for Climate, *Bull. Of the Amer. Met. Soc.* 77(10), 2243-2273.

See list at end of syllabus and daily reading lists for more complete listing of readings.

Online Course Support

This course is taught using the CANVAS learning management system. To access your course, go to: http://geosonlineclasses.tamu.edu/, and click on the “Launch Canvas” button. You will need your Texas A&M University NetID and password to log in. Please be sure you have enrolled in Duo Authentication. For more information regarding Duo, go to: https://gateway.tamu.edu/duo-enroll/

If at any time, you need help with CANVAS, you may contact their 24x7 help desk at: 1 (844) 802-4049

Attendance and make-up policies

This is a fast paced course. Students are required to login to this online course at least 3 times per week (anytime) to check for announcements, new assignments, and emails.
This course will follow the University’s policy found at http://student-rules.tamu.edu/rule07, if a student cannot complete assigned activities by their deadlines due to excused absences.

Attendance Policy: Please refer to http://student-rules.tamu.edu see Part 1: Academic Rules, #7 attendance. If you would like a copy of the rule, it will be provided to you.

Homework Policy: Late homework will not be accepted unless an approved Texas A&M University excuse applies or prior arrangement has been approved. Prior arrangement constitutes approval 24-hours before assignment is due. If prior approval is granted for any reason except an approved University excuse than a five-point penalty per day late will be assessed.

Grading Policies
10% reading summaries, 45% nine data assignments (written), 20% RA Presentation (10% oral presentation, 10% written report), and 25% OOS project (15% oral presentation, 10% written report).

Grading Scale

*Standard Letter Grading Scale:*

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = <60

Course Topics

1. Rationale and motivation for coastal and global ocean observing systems
2. Sampling and instrumentation strategies and backbone system design
3. IOOS and OOI
4. Data: telemetry, quality assurance, archival, dissemination
5. Regional enhancements: coastal versus global issues
6. Providers and users communities, societal impacts
7. Ocean Technology: Gliders, ARGO, HF Radar, Ocean Cables
8. Numerical model uses and misuses
9. The Role of Government, Academia and the Private Sector
10. Policy considerations and the politics of Ocean Observing

<table>
<thead>
<tr>
<th>Module</th>
<th>Topic</th>
<th>Reading Assignment</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>The NOAA National Data Buoy Center Part 1:</td>
<td>Reading:</td>
</tr>
<tr>
<td><strong>Global Arrays, ARGOS Floats</strong></td>
<td><strong>Data Encounter DE1: TOGA Array</strong></td>
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<td><strong>Data Encounter DE1: TOGA Array</strong></td>
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<td><strong>Data Encounter DE2: ARGO Data</strong></td>
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<td><strong>Data Encounter DE3: Gulf of Mexico NDBC</strong></td>
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<td><strong>High Frequency/Coastal Radar</strong></td>
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<td><strong>The HF Radar Network ROWG and user groups</strong></td>
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</tbody>
</table>


**Agency Linkages**

**Reading:**
- *Larsen et al. USGS Perspectives on an Integrated Approach to Watershed and Coastal Management. MTSJ-I*
- *Birkemeier et al. 2010. The Importance of Coastal Observations to Activities of the US Army Corps of Engineers. MTSJ-I*
- *Basset et al. 2010. Implementing the National IOOS – From the Federal Agency Perspective. MTSJ-I*

**Case Studies:**

- The case from the Deepwater Horizon Spill and the Gulf of Mexico Hurricanes: Katrina (2005), Ike (2008), Harvey (2017)

**Readings:**
- *Ozgokmen et al. 2016. Over what area did the oil and gas spread during the 2010 Deepwater Horizon Spill?. Oceaanography 29(3), 96-107.*

**Data Encounter DE2: ARGO Data**

**Ocean Observing Instrumentation and Mooring Design**

**Data Encounter DE3: Gulf of Mexico NDBC**

**High Frequency/Coastal Radar The HF Radar Network ROWG and user groups**

**Ocean Observing Instrumentation and Mooring Design**

- *Mullins et al. 2011. Interdisciplinary Ocean Observing on the Texas Coast. MTSJ-II*

**Reading: OO21C Section 4.3**

**EXTRA (Optional) ASSIGNMENT:** Mooring Design Principals of Mooring Design Mooring: Design Software Package Users Guide.
| 4 | **Data Encounter DE4: Hi-Frequency Radar**  
Midterm Presentations  
Graduate Student Presentation P1:  
Regional Associations  
Glider Basics and Operations  
Reading material: provided by instructor Gliders and OOS |
|---|---|
| 5 | **Spatial Scales of Variability**  
Optimal Array Design and OOS  
**Data Encounter DE5: Ocean Glider Data**  
Ocean Observing Initiative (OOI) Design, rationale, system requirements, elements  
**Data Encounter DE6: OOI Data**  
Reading: Sakov et al. Objective array design: |
Frolov et al. Optimizing fixed observational assets in a coastal observatory.
Cowles et al. MTSJ-I The Ocean Observatories Initiative: Sustained Ocean Observing Across a Range of Spatial Scales. Pp 54-64.
<table>
<thead>
<tr>
<th>Page</th>
<th>Reading</th>
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</table>
| 7    | **Proposing**  
 **Data Encounter DE8. Ocean Satellite Data**  
 *The Role of Numerical Models*  
 **Data Encounter DE9: Numerical Ocean Model Output (HYCOM)**  
 *The Role of the Private Sector Value-added Products*  
 For Profit/Commercial Enterprise Entrepreneurs |
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 Data Management  
 Data Collection, Transmission Dissemination, Archival Copyright/Property Rights  
 National Center for Environmental Information  
 Reading: DMAC Plan [selected items, will be distributed in class]  
 La Beaujardiere et al. MT SJ-I  
  |
|      | *Chaissignet et al. US GODAE: Global ocean prediction with the Hybrid Coordinate Ocean Model (HYCOM). Oceanography 22(1), 64-75, 2009.  
  |
 OO21C Sections 6.1, 6.2  
 *H. L. Kite-Powell, Economic considerations in the design of ocean observing systems. Oceanography 22(2), 44-49, 2009.  
 *Tamburri et al., 2011. Alliance for Coastal Technologies. Advanced Moored pCO2 Instruments in Coastal Waters. MT SJ-II  
 *Gouldman et al., 2011. US Integrated Ocean Observing System and the Shellfish Growers  
  |
### List of assignments and exams:

Daily reading assignments will be given for each class. Summaries will be assigned during class and will be due the following class period.

Data Encounters: There are nine data encounters; students will complete tasks that requires discussing, accessing, and interpreting data from a specified ocean observing system. On some Encounters, graduate students may be asked to graph a dataset from the specified ocean observing system and provide some interpretation relevant to the dataset. Graduate students will be paired into small groups for some encounters.

- DE1. NDBC TOGA Array.
- DE2. ARGO Float Network.
- DE3. The National Data Buoy Center and Gulf of Mexico Observatories.
- DE5. Ocean Glider.

### Assignments and Exams

<table>
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<tr>
<th>Assignment</th>
<th>Description</th>
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</table>

*Kite-Powell et al. 2011. The Value of Ocean Surface Wind Information for Maritime Commerce. MTSJ-II

Presentations:
P1. RA summary. Students are each assigned a Regional Association and are asked to report on members, affiliation, data collected, data served, target communities, stakeholders. 12-minute presentation plus 5 page report. (due October 12, prior to midterm grades).

P2. OOS project. Students will be tasked with designing an OOS in a specific region of the world with specific ecosystem and observational objectives (of their choosing) and submit a written report and make an oral presentation based on independent research. 10 pages, include references. Graduate students will work in groups of two or three students. Additional guidelines will be distributed in class.

Due Dates and Time Zones

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Academic Integrity

For additional information please visit: http://aggiehonor.tamu.edu

Aggie Code of Honor
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The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing
of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified. The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other.

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”.

READING LIST (legacy documents)


Course Change Request

Viewing: **OCNG 608: Physical Oceanography**

Last approved: 06/22/18 3:37 am

Changes proposed by: sara.baber

Catalog Pages referencing this course
- ATMO - Atmospheric Sciences
- Department of Atmospheric Sciences
- Department of Oceanography
- Doctor of Philosophy in Oceanography
- Master of Science in Oceanography
- OCNG - Oceanography
- CERT-CG41: Ocean Observing Systems - Certificate

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Thornton</td>
<td><a href="mailto:dthornton@tamu.edu">dthornton@tamu.edu</a></td>
<td>9798454092</td>
</tr>
</tbody>
</table>

Rationale for Course Edit

The proposed changes are part of a routine curriculum review.

Other

Update this course for distance education equivalency.

Course prefix    OCNG  
Course number   608  
Department      Oceanography  
College/School  Geosciences  
Academic Level  Graduate  
Academic Level (alternate) Undergraduate  
Effective term  2018-2019 Spring  
Complete Course Title  Physical Oceanography  
Abbreviated Course Title  PHYSICAL OCEANOGRAPHY  

Catalog course description
- Observations, instruments; physical properties of seawater; property distributions; characteristics of water masses; heat budget; kinematics; gravity, pressure, hydrostatics, stability; horizontal flow; Coriolis force, geostrophy; friction, wind drift; general circulation; wave motions; tides.

Prerequisites and Restrictions
- MATH 152 and PHYS 208, or equivalents.

Concurrent Enrollment  No

Should catalog prerequisites  No

Approval Path

1. 10/04/18 9:40 pm  Shari Yvon-Lewis (syvon-lewis): Rollback to Initiator
2. 10/05/18 9:26 am  Shari Yvon-Lewis (syvon-lewis): Approved for OCNG Department Head
3. 10/05/18 9:32 am  Terra Bissett (t.bissett): Approved for Curricular Services Review
4. 10/05/18 9:40 am  Roxanna Russell (rrussell): Approved for GE Committee Preparer GR
5. 10/08/18 8:15 am  Christian Brannstrom (cbrannst): Approved for GE Committee Chair GR
6. 10/08/18 3:39 pm  Christian Brannstrom (cbrannst): Approved for GE College Dean GR
7. 10/25/18 8:50 am  LaRhesa Johnson (lrjohnson): Approved for GC Preparer
8. 11/01/18 3:45 pm  LaRhesa Johnson (lrjohnson): Approved for GC Chair
**Title:** OCNG 608: Physical Oceanography

- **Course Code:** OCNG 608
- **Semester:** 3
- **Credit Hour(s):** 3
- **Contact Hour(s):** (per week):
  - Lecture: 3
  - Lab: 0
  - Other: 0
  - Total: 3
- **Repeatable for credit:** No
- **Three-peat:** No
- **CIP/Fund Code:** 4006070002
- **Default Grade Mode:** Letter Grade (G)
- **Alternate Grade Modes:** Satisfactory/Unsatisfactory
- **Method of instruction:** Lecture
- **Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education):** Yes

**Learning Outcomes**

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

OCNG 608 online meets the same standards as the traditional course. Course equivalency, including Learning Outcomes, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

**Hours**

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

OCNG 608 online meets the same standards as the traditional course. Course equivalency, including Semester Credit Hours, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

**Will this course be taught as a distance education course?**

- Yes

**I verify that I have reviewed the FAQ for Export Control Basics for Distance Education.**

- Yes

**Is 100% of this course going to be taught in Texas?**

- Yes

**Will classroom space be needed for this course?**

- No

**This will be a required course or an elective course for the following programs:**

<table>
<thead>
<tr>
<th>Program(s)</th>
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<tbody>
<tr>
<td>(MOS-OCST) Master of Ocean Science and Technology in Ocean Science and Technology</td>
</tr>
</tbody>
</table>
# Course Syllabus

<table>
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<tr>
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<td><a href="https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate">OCNG_608_Fall2018_ORSI.pdf</a></td>
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</table>

| Letters of support or other documentation | No |

| Additional information | Change in pre-requisites has been made to ensure the course is compatible with the pathways through our different degree programs. PHYS 219 in no longer an active course and has been replaced with PHYS 208. |

| Reviewer Comments | Shari Yvon-Lewis (syvon-lewis) (10/04/18 9:40 pm): Rollback: This is also a required course in the Master of Ocean Science and Technology. You included the 3+2 programs but not the stand-alone 36 credit hours MOST degree. |

| Reported to state? | No |
Course title and number  OCNG 608: Physical Oceanography
Term (e.g., Fall 200X)  Fall, 2019
Meeting times and location  Online

Course Description and Prerequisites
This course is an introduction to the relevant physical processes influencing the oceans and coastal regions. The purpose of this course is to provide a general description of the physical processes that occur in the ocean, its interactions with the atmosphere, the types of oceanic observations, physical properties of seawater and typical distributions, characteristic water masses and stratification, ocean currents, property transports, and budgets of mass, heat and freshwater. It presents the basic dynamical concepts in oceanography such as kinematics, gravity, pressure, hydrostatics, stability, horizontal flow, Coriolis force, geostrophy, friction, wind drift, general circulation, wave motions and tides.
Prerequisites: MATH 308 and PHYS 219 or equivalent courses in calculus, differential equations, and first-year physics.

Learning Outcomes or Course Objectives
Upon completion of this course students will be able to describe the fundamentals of ocean dynamics and thermodynamics, modern observational methods and analytical techniques; define the main characteristics of flows from micro to global scales; explain the basic physical principles and force balances governing these flows; identify the principal terms in the equation of motion; apply the equation of state; summarize Earth’s radiation balance; describe wind-driven and thermohaline circulations; differentiate upwelling, convection, mixing, diffusion, subduction, and the main thermocline; generalize the main time-dependent motions.

Instructor Information
Name  Alejandro Orsi
Telephone number  979-845-4014
Email address  aorsi@tamu.edu
Virtual Office hours  TBD
Virtual Office Hours  Virtual Office hours will be scheduled weekly, and connectivity through WebEx, Canvas or Canvas Conference – hours and connection instructions will be provided

Email

All Texas A&M students should use their university-associated email accounts when emailing the instructor and teaching assistants.

Textbook and/or Resource Material
There are a number of useful resources for the wide range of topics covered in this course, thus no particular textbook is required. However, preference will be given to Introduction to Physical Oceanography, by Robert H. Stewart, 2008 and Descriptive Physical Oceanography, by Talley et al., 2010.
Additional copyrighted resource materials (handouts, documents, class presentations) will also be posted in Canvas for download at the course website as needed.
Complementary reference textbooks include:


The Open University Team: The Ocean Basins; Seawater; Ocean Circulation ; Waves, Tides, and Shallow-water Processes, Butterworth Heinemann, 2nd Edn., 2002.

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Grading Policies and Scale

The course final grade is based on three exams (25% each) and problem sets (25% total) based on lecture materials. Exams are online and will be timed. Only excused absences will warrant make-up exams. Homework assignments are arranged regularly between exams, and in the form of online problem sets.

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Course Topics and Modules

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Evolution; The Physical Setting, Ocean-Atmospheric Interactions</td>
</tr>
<tr>
<td>2</td>
<td>Ocean-Atmospheric Interactions</td>
</tr>
<tr>
<td>3</td>
<td>Properties of Seawater and Measurements, Characteristic Distributions</td>
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<tr>
<td>4</td>
<td>Basic Ocean Dynamics, Role of Non-Linear Terms</td>
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<td>5</td>
<td>Currents Without Friction, Wind-driven Circulation</td>
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<td>6</td>
<td>Thermohaline Circulation</td>
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<tr>
<td>7</td>
<td>Regional Circulation and Water Masses, Waves</td>
</tr>
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<td>Tides and Coastal Circulation</td>
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**Course title and number**  
OCNG 608: Physical Oceanography

**Term**  
Fall 2018

**Meeting times and location**  
Tuesday Thursday, 12:45 PM - 2:00 PM, room 203 O&M Building

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### Course Description and Prerequisites

This course is an introduction to the relevant physical processes influencing the oceans and coastal regions. The purpose of this course is to provide a general description of the physical processes that occur in the ocean, its interactions with the atmosphere, the types of oceanic observations, physical properties of seawater and typical distributions, characteristic water masses and stratification, ocean currents, property transports, and budgets of mass, heat and freshwater. It presents the basic dynamical concepts in oceanography such as kinematics, gravity, pressure, hydrostatics, stability, horizontal flow, Coriolis force, geostrophy, friction, wind drift, general circulation, wave motions and tides.

**Prerequisites:** MATH 308 and PHYS 219 or equivalent courses in calculus, differential equations, and first-year physics.

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### Learning Outcomes

Upon completion of this course students will be able to describe the fundamentals of ocean dynamics and thermodynamics, modern observational methods and analytical techniques; define the main characteristics of flows from micro to global scales; explain the basic physical principles and force balances governing these flows; identify the principal terms in the equation of motion; apply the equation of state; summarize Earth's radiation balance; describe wind-driven and thermohaline circulations; differentiate upwelling, convection, mixing, diffusion, subduction, and the main thermocline; generalize the main time-dependant motions.

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### Instructor Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Alejandro Orsi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone number</td>
<td>979-845-4014</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:aorsi@tamu.edu">aorsi@tamu.edu</a></td>
</tr>
<tr>
<td>Office hours</td>
<td>Friday, 3 – 5 PM</td>
</tr>
<tr>
<td>Office location</td>
<td>Room 508, O&amp;M Building</td>
</tr>
</tbody>
</table>

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### Textbook and/or Resource Material

There are a number of useful resources for the wide range of topics covered in this course, thus no particular textbook is required. However, preference will be given to

*Introduction to Physical Oceanography, by Robert H. Stewart, 2008*  
*Descriptive Physical Oceanography, by Talley et al., 2010.*

Additional copyrighted resource materials (handouts, documents, class presentations) will also be posted for download at the course website as needed.

Complementary reference textbooks include:


*The Open University Team: The Ocean Basins; Seawater; Ocean Circulation; Waves, Tides, and Shallow-water Processes, Butterworth Heinemann, 2nd Edn., 2002.*
**Attendance**
Attendance is mandatory; excused absences policy is in accordance to Rule 7 of TAMU Students Rules ([http://student-rules.tamu.edu](http://student-rules.tamu.edu)).

**Grading Policies and Scale**
The course final grade is based on three exams (25% each) and problem sets (25% total) based on lecture materials. Exams are in-class and will be given approximately every seven weeks. Only excused absences will warrant make-up exams. Homework assignments are arranged regularly between exams, and in the form of problem sets.

A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: Below 60%

**TENTATIVE LECTURES SCHEDULE** (subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Evolution; The Physical Setting</td>
</tr>
<tr>
<td>2, 3</td>
<td>Ocean-Atmospheric Interactions</td>
</tr>
<tr>
<td>3, 4</td>
<td>Properties of Seawater and Measurements</td>
</tr>
<tr>
<td>5</td>
<td>Characteristic Distributions</td>
</tr>
<tr>
<td>6, 7</td>
<td>Basic Ocean Dynamics</td>
</tr>
<tr>
<td>7, 8</td>
<td>Role of Non-Linear Terms</td>
</tr>
<tr>
<td>9</td>
<td>Currents Without Friction</td>
</tr>
<tr>
<td>10, 11</td>
<td>Wind-driven Circulation</td>
</tr>
<tr>
<td>11</td>
<td>Thermohaline Circulation</td>
</tr>
<tr>
<td>12</td>
<td>Regional Circulation and Water Masses</td>
</tr>
<tr>
<td>13</td>
<td>Waves, Thanksgiving Holiday</td>
</tr>
<tr>
<td>14</td>
<td>Tides and Coastal Circulation</td>
</tr>
<tr>
<td>15</td>
<td>Tuesday, 4 December: <strong>Redefined Class</strong></td>
</tr>
<tr>
<td></td>
<td>Thursday, 6 December: <strong>No Reading Class</strong></td>
</tr>
<tr>
<td>16</td>
<td>Wednesday, 12 December, 8-10 AM: <strong>No Final Exam</strong></td>
</tr>
</tbody>
</table>
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

**Academic Integrity**
For additional information please visit: http://www.tamu.edu/aggiehonor
“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

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**Plagiarism Statement**
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Course Change Request

Viewing: **OCNG 655 : Experimental Design and Analysis in Oceanography**

Last edit: 10/05/18 9:33 am
Changes proposed by: sara.baber

Catalog Pages referencing this course
- Department of Oceanography
- OCNG - Oceanography

Programs referencing this course
- BS/MOS-ENG/OCST-GOC: Environmental Geosciences - 5-Year Bachelor of Science/Master of Ocean Science and Technology

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sara Baber</td>
<td><a href="mailto:sara.baber@tamu.edu">sara.baber@tamu.edu</a></td>
<td>979-845-2734</td>
</tr>
</tbody>
</table>

Rationale for Course

Edit
- Other

Explain other rationale
- Update to this course for distance education delivery

Course prefix          OCNG  
Course number          655
Department             Oceanography
College/School         Geosciences
Academic Level         Graduate
Academic Level (alternate) Undergraduate
Effective term         2018-2019 Spring

Complete Course Title
Experimental Design and Analysis in Oceanography

Abbreviated Course Title
- EX DESIGN AND ANALYSIS OCNG

Catalog course description
- Elements of experimental design in oceanography; logistics of data collection; critical evaluation of field sampling strategies; formulation of field studies suitable for hypothesis-based inquiries using the standard linear regression mode; analysis of variance and principal component analysis.

Prerequisites and Restrictions
- Approval of instructor.

Concurrent Enrollment
- No

Should catalog prerequisites /

In Workflow
1. OCNG Department Head
2. Curricular Services Review
3. GE Committee Preparer GR
4. GE Committee Chair GR
5. GE College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 10/04/18 9:44 pm Shari Yvon-Lewis (syvon-lewis): Rollback to Initiator
2. 10/05/18 9:29 am Shari Yvon-Lewis (syvon-lewis): Approved for OCNG Department Head
3. 10/05/18 9:36 am Terra Bisse (t.bisse): Approved for Curricular Services Review
4. 10/05/18 9:40 am Roxanna Russell (rrussell): Approved for GE Committee Preparer GR
5. 10/08/18 8:16 am Christian Brannstrom (cbrannst): Approved for GE Committee Chair GR
6. 10/08/18 3:39 pm Christian Brannstrom (cbrannst): Approved for GE College Dean GR
7. 10/25/18 8:50 am LaRhesa Johnson (lrjohnson): Approved for GC Preparer
8. 11/01/18 3:45 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate
concurrent enrollment be enforced? No

Crosslistings No Crosslisted With No
Stacked No Stacked with

<table>
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<tr>
<th>Semester</th>
<th>Credit Hour(s)</th>
<th>Contact Hour(s)</th>
<th>Lecture: 3</th>
<th>Lab: 0</th>
<th>Other: 0</th>
<th>Total 3</th>
</tr>
</thead>
</table>

Repeatable for credit? No
Three-peat? No
CIP/Fund Code 4006070002
Default Grade Mode Letter Grade (G)
Alternate Grade Modes Satisfactory/Unsatisfactory
Method of instruction Lecture
Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

Learning Outcomes
Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.
OCNG 655 online meets the same standards as the traditional course. Course equivalency, including Learning Outcomes, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

Describe how hours are met or provide justification why they are not met.
OCNG 655 online meets the same standards as the traditional course. Course equivalency, including Semester Credit Hours, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

Will this course be taught as a distance education course? Yes
I verify that I have reviewed the FAQ for Export Control Basics for Distance Education. Yes
Is 100% of this course going to be taught in Texas? Yes
Will classroom space be needed for this course? No

This will be a required course or an elective course for the following programs:

<table>
<thead>
<tr>
<th>Program(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MS-OCNG) Master of Science in Oceanography</td>
</tr>
<tr>
<td>(PHD-OCNG) Doctor of Philosophy in Oceanography</td>
</tr>
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</table>
### Course Syllabus

<table>
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</thead>
<tbody>
<tr>
<td>Letters of support or other documentation</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Additional information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reviewer Comments</td>
<td>Shari Yvon-Lewis (sylvon-lewis) (10/04/18 9:44 pm): Rollback: I saw that the presentation in-class is shown in the online syllabus. That seems odd.</td>
<td></td>
</tr>
<tr>
<td>Reported to state?</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Key: 12194
Course title and number  OCNG 655 Experimental Design and Analysis in Oceanography
Term  Fall 2018
Meeting times and location  9:35-10:50 a.m. Tuesday and Thursday O&M 103

Course Description and Prerequisites
The course covers all the elements of experimental design in oceanography; logistics of data collection, and critical evaluation of field sampling strategies. Students will learn to formulate field studies suitable for hypothesis-based inquiries using the standard linear regression model, the analysis of variance, and principal component analysis.

Prerequisites: Graduate student status.

Course Objective and Learning Outcomes
Course objective: To learn the basic tools and techniques to collect, process, analyze, and visualize data commonly found in ocean sciences.

Learning Outcomes: By taking this course, the student, upon completion, will be able to:
1. Identify the appropriate methods for, and perform basic and advanced analysis of, data sets commonly found in geosciences.
2. Write medium-length (100-150 lines) computer programs in MATLAB programming language to statistically analyze geosciences data.
3. Produce and interpret graphical and tabular representations of geosciences data.
4. Apply the scientific method to formulate testable hypothesis.
5. Assess significance of statistical outcomes applied to observational data, as well as error and uncertainty.
6. Design experiments to test hypotheses.
7. Quantify basic statistical metrics of geosciences data.
8. Investigate a unique geosciences dataset applying statistical analysis techniques; create graphical and tabular representations of the data and present basic interpretation as paper and class presentation.

Instructor Information
Name  Henry Potter
Telephone number  979 845 0405
Email address  hpotter@tamu.edu
Office hours  Tuesday & Thursday 11:00-1:00
Office location  O&M 702D

Textbooks
Recommended: Geostatistics Explained: An Introductory Guide for Earth Scientists. S.
Attendance, Homework, and Grading Policy

Attendance Policy: Please refer to http://student-rules.tamu.edu see Part 1: Academic Rules, #7 attendance. If you would like a copy of the rule, it will be provided to you.

Homework Policy: Late homework will not be accepted unless an approved Texas A&M University excuse applies or prior arrangement has been approved. Prior arrangement constitutes approval 24-hours before assignment is due. If prior approval is granted for any reason except an approved University excuse than a five-point penalty per day late will be assessed.

Grading Policy: 50% homework (5% for homework 0, 9% each for homework 1-5); 30% data analysis project (20% for the written portion, 10% for the presentation); 20% final exam.

Grading Scale
Grades for all students are based on the following grading system:
90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D, <60=F.

Copyright and Plagiarism Policy
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Course Calendar

Week 1
Course Introduction. Summary of course objectives and goals, policies, resources and textbook. Probability. What is probability? Coin toss example. Definitions of probability terms.
Reading Assignment: Chapter 1, pages 3-24.

Week 2
Reading Assignment: Chapter 1, pages 25-31 and Chapter 2, pages 31-39.

Week 3
Reading Assignment: Chapter 2, pages 40-56
Week 4
Reading Assignment: Chapter 3, pages 57-78 and Chapter 4, pages 79-89.

Week 5
Framing Hypotheses and the Scientific Method. Error testing. Graphical representation of data and graphical integrity. Parametric analysis
Reading Assignment: Chapter 4, pages 90-106, Chapter 5, pages 107-108, 117-121, and Chapter 9, pages 239-250

Week 6
Data Analysis. Regression and the Linear Model. Regression and the ANOVA Table
Reading Assignments: Chapter 9, pages 250-272, 287.

Week 7
Tests for regression, other kinds of regression analysis. Midterm Review. Midterm (undergraduates only, graduate student attendance not required on exam day). Chapters 1-5, 9 (Regression), and class notes.
Reading Assignment: Review for Midterm, and Chapter 6, pages 137-155.

Week 8
Designing successful field studies. Replications, independence and randomization.
Reading Assignment: Chapter 6, pages 156-162 and Chapter 7, 163-204.

Week 9
Categorical and continuous variables. Sampling Designs and the Road to ANOVA. ANOVA Design and assumptions. Hypothesis testing with ANOVA. Partitioning the sum of squares.
Reading Assignment: Chapter 10, pages 289-324.

Week 10
Reading Assignment: Chapter 10 pages 315-348.

Week 11

Week 12
Classification - Cluster Analysis: Metrics and Theory
Reading Assignment: Chapter 12, pages 438-445

Week 13- Tuesday class only (no classes Wed-Fri due to Thanksgiving)
Wrap-up Multivariate Analysis.
Reading Assignment: Chapter 8, pages 208-235.
Week 14
Graduate student presentations.
Reading Assignment: Review notes.

Week 15 - Tuesday class only. Redefined: Students will attend their Thursday classes on Tuesday.
Review for final exam.

**Data Analysis Project (DAP) Milestones:**

*Week 5 (25th Sept.)*
Topic Selection: 1 page, describing topic and introduction of problem and major issues

*Week 7 (9th Oct.)*
Draft Analysis Plan: 2-3 pages, description of data and methodologies to be employed

*Week 10 (30th Oct.)*
Preliminary Results: 2-4 pages of preliminary graphs and draft interpretation of results

*Week 13 (13th Nov.)*
Extended Report Outline: 5 pages showing main, subtopics and key points for DAP

*Week 14 (27th and 29th Nov.)*
12 minute in-class presentation

*Week 15 (4th Dec.)*
Report Deadline: ~10 pages

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**Academic Integrity**
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“An Aggie does not lie, cheat, or steal, or tolerate those who do.”
Course title and number: OCNG 655 Experimental Design & Analysis in Oceanography
Term: Fall, 2019
Meeting times and location: Online

Course Description and Prerequisites

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3. Produce and interpret graphical and tabular representations of geosciences data.
4. Apply the scientific method to formulate testable hypothesis.
5. Assess significance of statistical outcomes applied to observational data, as well as error and uncertainty.
6. Design experiments to test hypotheses.
7. Quantify basic statistical metrics of geosciences data.
8. Investigate a unique geosciences dataset applying statistical analysis techniques; create graphical and tabular representations of the data and present basic interpretation as paper and class presentation.

Instructor Information

Name: Henry Potter
Telephone number: 979-845-0405
Email address: hpotter@tamu.edu
Virtual Office Hours: Online, TBD
Virtual Office Hours Connectivity: Connectivity through WebEx, Canvas, or Canvas Conference

Email
All Texas A&M students should use their university-associated email accounts when emailing the instructor and teaching assistants.
Textbook and/or Resource Material


**Recommended:** *Geostatistics Explained: An Introductory Guide for Earth Scientists*. S.

Online Course Support

This course is taught using the CANVAS learning management system. To access your course, go to: [http://geosonlineclasses.tamu.edu/](http://geosonlineclasses.tamu.edu/), and click on the “Launch Canvas” button. You will need your Texas A&M University NetID and password to log in. Please be sure you have enrolled in Duo Authentication. For more information regarding Duo, go to: [https://gateway.tamu.edu/duo-enroll/](https://gateway.tamu.edu/duo-enroll/)

If at any time, you need help with CANVAS, you may contact their 24x7 help desk at: 1 (844) 802-4049

Attendance and make-up policies

This is a fast paced course. Students are required to login to this online course at least 3 times per week (anytime) to check for announcements, new assignments, and emails. This course will follow the University’s policy found at [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07). if a student cannot complete assigned activities by their deadlines due to excused absences.

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Grading Policies

50% homework (5% for homework 0, 9% each for homework 1-5); 30% data analysis project (20% for the written portion, 10% for the presentation); 20% final exam.

Grading Scale

*Standard Letter Grading Scale:*

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = <60

Course Topics, Calendar of Activities, Major Assignment Dates

<table>
<thead>
<tr>
<th>Module</th>
<th>Topic</th>
<th>Reading Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction. Summary of course objectives</td>
<td>Chapter 1, pages 3-24. Chapter 1, pages</td>
</tr>
</tbody>
</table>
### Data Analysis Project (DAP) Milestones:

| Week Three | Topic Selection: 1 page, describing topic and introduction of problem and major issues |
| Week Four  | Draft Analysis Plan: 2-3 pages, description of data and methodologies to be employed |
| Week Six   | Preliminary Results: 2-4 pages of preliminary graphs and draft interpretation of results |
| Week Seven | Extended Report Outline: 5 pages showing main, subtopics and key points for DAP |
| Week Eight | 12 minute virtual presentation |
| Week Eight | Report Deadline: ~10 pages |

25-31 and Chapter 2, pages 31-39

Chapter 2, pages 40-56, Chapter 3, pages 57-78 and Chapter 4, pages 79-89

Chapter 4, pages 90-106, Chapter 5, pages 107-108, 117-121, and Chapter 9, pages 239-250 and Chapter 9, pages 250-272, 287


Chapter 10, pages 289-324 and Chapter 10 pages 315-348


Chapter 8, pages 208-235 and Review notes


6 Multivariate data and Matrix Algebra. Principal Component Analysis: defining the paradigm. Ordination: PCA: theory and examples Classification - Cluster Analysis: Metrics and Theory

7 Wrap-up Multivariate Analysis and Virtual student presentations

8 Continue Wrap-up and review for final exam
Due Dates and Time Zones

Please be advised the times listed here - and any other printed materials - usually refer to the course time zone which is US Central time. (Day Light Saving time is observed until 2:00 AM on Sunday, November 5.) By default, all dates and times throughout your Canvas course are displayed according to a course’s respective time zone. However, you can set your own time zone for your user account and have your local time zone display throughout Canvas. Displaying dates in your local time may help you stay up to date on assignments and due dates, especially if your course time zone differs significantly from where you reside.

Texas A&M University Student Services

Texas A&M University offers a variety of student services to on-campus and online students. For more information, please go to: http://distance.tamu.edu/Student-Services

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Academic Integrity

For additional information please visit: http://aggiehonor.tamu.edu

Aggie Code of Honor

For many years Aggies have followed a Code of Honor, which is stated in this very simple verse: "An Aggie does not lie, cheat or steal or tolerate those who do."

The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified.

The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other.

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Course Change Request

Date Submitted: 10/05/18 8:15 am

Viewing: **OCNG 657 : Data Methods and Graphical Representation in Oceanography**

Last approved: 02/08/18 3:22 am

Last edit: 10/05/18 9:35 am

Changes proposed by: sara.baber

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Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrissy Wiederwohl</td>
<td><a href="mailto:chrissyw@tamu.edu">chrissyw@tamu.edu</a></td>
<td>979-845-7191</td>
</tr>
</tbody>
</table>

Rationale for Course Edit

**The proposed changes are to meet the demand/interest of students.**

Other

**Update to this course for distance education equivalency**

Course prefix       OCNG
Course number       657
Department          Oceanography
College/School      Geosciences
Academic Level      Graduate
Academic Level      Undergraduate
Effective term      2018-2019 **Spring**

Complete Course Title
Data Methods and Graphical Representation in Oceanography

Abbreviated Course Title
DATA METHODS GRAPH REP

Catalog course description
Application of advanced statistical, quantitative and computational methods to oceanographic observational data; methodologies emphasized include spectral analysis and representations of time series data, optimal interpolation of irregular data fields, analysis of multiple variables using Empirical Orthogonal Functions and scientific interpretation of statistical quantities.

Prerequisites and Restrictions
Approval of instructor.

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Approval Path

1. 10/04/18 9:46 pm
   Shari Yvon-Lewis (syvon-lewis): Rollback to Initiator

2. 10/05/18 9:30 am
   Shari Yvon-Lewis (syvon-lewis): Approved for OCNG Department Head

3. 10/05/18 9:37 am
   Terra Bissett (t.bissett): Approved for Curricular Services Review

4. 10/05/18 9:40 am
   Roxanna Russell (rrussell): Approved for GE Committee Preparer GR

5. 10/08/18 8:17 am
   Christian Brannstrom (cbrannst): Approved for GE Committee Chair GR

6. 10/08/18 3:39 pm
   Christian Brannstrom (cbrannst): Approved for GE College Dean GR

7. 10/29/18 8:50 am
   LaRhesa Johnson (lrjohnson): Approved for GC Preparer

8. 11/01/18 3:45 pm
   LaRhesa Johnson (lrjohnson): Approved for GC Chair
Concurrent Enrollment: No
Should catalog prerequisites / concurrent enrollment be enforced? No
Crosslistings: No
Crosslisted With: No
Stacked: No
Stacked with: No
Semester: 3
Credit Hour(s): 3
Contact Hour(s) (per week): Lecture: 3, Lab: 0, Other: 0, Total: 3
Repeatable for credit: No
Three-peat: No
CIP/Fund Code: 4006070002
Default Grade Mode: Letter Grade (G)
Alternate Grade Modes: Satisfactory/Unsatisfactory
Method of instruction: Lecture
Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

Learning Outcomes

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

OCNG 657 online meets the same standards as the traditional course. Course equivalency, including Learning Outcomes, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

Hours

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

OCNG 657 online meets the same standards as the traditional course. Course equivalency, including Semester Credit Hours, student verification and course rigor were evaluated following a College of Geosciences Review for Non-traditional courses.

Will this course be taught as a distance education course?

Yes No

I verify that I have reviewed the FAQ for Export Control Basics for Distance Education. Yes

Is 100% of this course going to be taught in Texas?

Yes

Will classroom space be needed for this course?

No Yes

This will be a required course or an elective course for the following programs:

Required (select program)

(MOS-OCST) Master of Ocean Science and Technology in Ocean Science and Technology
Course Syllabus

Syllabus: Upload syllabus

Upload syllabus

OCNG_657_Online_Syllabus_10-4-18.pdf
OCNG_657_spring2018_DIMARCO.pdf

Letters of support or other documentation

No

Additional information

Reviewer Comments

Shari Yvon-Lewis (syvon-lewis) (10/04/18 9:46 pm): Rollback: This is also a required course in the Master of Ocean Science and Technology. You included the 3+2 programs but not the stand-alone 36 credit hours MOST degree.

Reported to state?

No
Course title and number  OCNG 657 DATA METHODS & GRAPHICAL REPRESENTATION
Term  Spring, 2020
Meeting times and location  Online

Course Description and Prerequisites

Description: Application of advanced statistical, quantitative, and computational methods to oceanographic observational data; methodologies emphasized include spectral analysis and representations of time series data, optimal interpolation of irregular data fields, analysis of multiple variables using Empirical Orthogonal Functions, and scientific interpretation of statistical quantities.

Prerequisites: Graduate student status. OCNG 655 or equivalent or permission of instructor

Learning Outcomes or Course Objectives

Course objective: To provide instruction on advanced computational tools and statistical methods of oceanographic data processing and analysis and techniques of graphical representation.

Learning Outcomes: By taking this course, the student, upon completion, will be able to:
1. Identify instrumentation and sensors suitable for scientific inquiry in oceanography,
2. Critically assess data quality using quantitative techniques,
3. Perform advanced statistical analysis of oceanographic time series data,
4. Produce maps of oceanographic data using objective analysis and optimal interpolation,
5. Use structured and modular programming techniques to write scientific computer programs,
6. Perform modal decomposition of multiple variable oceanographic observations,
7. Select an analysis method that is appropriate to a given dataset,
8. Think critically and objectively about scientific results based on statistical estimates,
9. To effectively design and produce statistical graphics of oceanographic data sets.

Instructor Information

Name  Dr. Steven F. DiMarco, Professor and Ocean Observing Team Lead
Department of Oceanography
Telephone number  979-862-4168 or 979-458-9323
Email address  sdimarco@tamu.edu
Virtual Office Hours  Online, TBD
Virtual Office Hours Connectivity  Connectivity through WebEx, Canvas, or Canvas Conference

Email

All Texas A&M students should use their university-associated email accounts when emailing the instructor and teaching assistants
Textbook and/or Resource Material


Online Course Support

This course is taught using the CANVAS learning management system. To access your course, go to: [http://geosonlineclasses.tamu.edu/](http://geosonlineclasses.tamu.edu/), and click on the “Launch Canvas” button. You will need your Texas A&M University NetID and password to log in. Please be sure you have enrolled in Duo Authentication. For more information regarding Duo, go to: [https://gateway.tamu.edu/duo-enroll/](https://gateway.tamu.edu/duo-enroll/)

If at any time, you need help with CANVAS, you may contact their 24x7 help desk at: 1 (844) 802-4049

Attendance and make-up policies

This is a fast paced course. Students are required to login to this online course at least 3 times per week (anytime) to check for announcements, new assignments, and emails. This course will follow the University’s policy found at [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07), if a student cannot complete assigned activities by their deadlines due to excused absences.

**Attendance Policy:** Please refer to [http://student-rules.tamu.edu](http://student-rules.tamu.edu) see Part 1: Academic Rules, #7 attendance. If you would like a copy of the rule, it will be provided to you.

**Homework Policy:** Late homework will not be accepted unless an approved Texas A&M University excuse applies or prior arrangement has been approved. Prior arrangement constitutes approval 24-hours before assignment is due. If prior approval is granted for any reason except an approved University excuse than a five-point penalty per day late will be assessed.

Grading Policies

80% homework problem sets (5), and 20% final exam.

**Grading Scale**

*Standard Letter Grading Scale:*

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = <60

Course Topics, Reading Assignments

<table>
<thead>
<tr>
<th>Module</th>
<th>Topic</th>
<th>Reading Assignment</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction: Data Acquisition. Instrumentation: Part 1, Temperature and Salinity, Instrumentation: Part 2, Basic Sampling, Velocity and Pressure</td>
<td>Chapter 1 and Handout, Chapter 2.1-3 and 3.1-3.2</td>
</tr>
</tbody>
</table>
List of assignments and exams:

Homework 0. Due approximately end of module 1.
Homework 1. Problem set due (approximately) end of module 2.
Homework 2. Problem set due (approximately) end of module 4.
Homework 3. Problem set due (approximately) end of module 5.
Homework 4. Problem set due (approximately) end of module 7.
Homework 5. Problem set due (approximately) end of module 8.
Final Test. (written)

Students are encouraged to bring and use their own data sets for class projects.

Due Dates and Time Zones

Please be advised the times listed here - and any other printed materials - usually refer to the course time zone which is US Central time. (Day Light Saving time is observed until 2:00 AM on Sunday, November 5.)
By default, all dates and times throughout your Canvas course are displayed according to course's respective time zone. However, you can set your own time zone for your user account and have your local time zone display throughout Canvas. Displaying dates in your local time may help you stay up to date on assignments and due dates, especially if your course time zone differs significantly from where you reside.

Texas A&M University Student Services

Texas A&M University offers a variety of student services to on-campus and online students. For more information, please go to: http://distance.tamu.edu/Student-Services

Americans with Disabilities Act (ADA)
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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Academic Integrity

For additional information please visit: http://aggiehonor.tamu.edu

Aggie Code of Honor
For many years Aggies have followed a Code of Honor, which is stated in this very simple verse:
"An Aggie does not lie, cheat or steal or tolerate those who do."
The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified.
The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other.

Copyright and Plagiarism Policy

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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.
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COURSE SYLLABUS

OCNG 657-600: DATA METHODS AND GRAPHICAL REPRESENTATION IN OCEANOGRAPHY

Term: Spring 2018
Meeting times: TR 12:45-2:00 PM
Meeting Room: O&M Building Room 617

Three credit hours

Instructor Information:
Dr. Steven F. DiMarco, Professor and Ocean Observing Team Lead
Department of Oceanography
3146 TAMU
Office: 702D Eller O&M Building
OCNG Phone: 979-862-4168 or GERG Phone: 979-458-9323
Email: sdimarco@tamu.edu
Office Hours: TR 11:00-12:00 PM or by appt., 702D
Admin. Assistant: Ms. Laura Caldwell, 979-845-1231 lcaldwell@geos.tamu.edu

Objective:
To provide instruction on advanced computational tools and statistical methods of oceanographic data processing and analysis and techniques of graphical representation.

Catalogue Description: Catalog Description: Application of advanced statistical, quantitative, and computational methods to oceanographic observational data; methodologies emphasized include spectral analysis and representations of time series data, optimal interpolation of irregular data fields, analysis of multiple variables using Empirical Orthogonal Functions, and scientific interpretation of statistical quantities.

Prerequisites:
Graduate level. OCNG 655 or equivalent or permission of instructor

Textbook:

Grading Policy:
80% homework problem sets (5), and 20% final exam. Grades will be based on the following grading system: 90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D, <60=F.

Learning Outcomes:
By taking this course, the student, upon completion, will be able to:
1. Identify instrumentation and sensors suitable for scientific inquiry in oceanography,
2. Critically assess data quality using quantitative techniques,
3. Perform advanced statistical analysis of oceanographic time series data,
Syllabus

4. Produce maps of oceanographic data using objective analysis and optimal interpolation,
5. Use structured and modular programming techniques to write scientific computer programs,
6. Perform modal decomposition of multiple variable oceanographic observations,
7. Select an analysis method that is appropriate to a given dataset,
8. Think critically and objectively about scientific results based on statistical estimates,
9. To effectively design and produce statistical graphics of oceanographic data sets.

Attendance Policy:
Please refer to http://student-rules.tamu.edu. Please see Part 1: Academic Rules, #7 Attendance. If you would like a copy of the rule it will be provided to you.

Course Topics/Calender:
Collection
Week 1. Introduction to Oceanographic instrumentation
Week 2. Introduction to MATLAB programming and mathematical review

Processing
Week 4. Oceanographic Data Processing: Graphical Visualization of Oceanographic Data, Outlier Identification and Removal, Metrics for Quality Assurance and Quality Control
Week 5.: Filling the Gaps: Interpolating Data and Splines, Causation and Correlation
Week 6. Designing and Testing Hypotheses: Confidence and Significance Testing

Analysis
Week 7. Elements of Data Analysis: Least-squares, Linear Estimates and Regression
Week 8. Elements of Time-Series Analysis: Sampling Theory and Frequency Domain Representation
Week 12. Cross-spectra, Coherency and Tidal (Harmonic) Analysis
Week 13. Spatial Representation and Analysis of Oceanographic Data Fields
Week 14a. Non-stationary Data: Wavelets

Database management
Week 14.b Database Management and Project Legacy, wrap up

Students are encouraged to bring and use their own data sets for class projects.

List of assignments and exams:
Weekly reading assignments.
Homework 0. Due approximately end of week 1.
Homework 1. Problem set due (approximately) end of week 4.
Homework 2. Problem set due (approximately) end of week 6.
Homework 3. Problem set due (approximately) end of week 9.
Homework 4. Problem set due (approximately) end of week 12.
Homework 5. Problem set due (approximately) end of week 14.
Final Test. (written)

Schedule of Lectures and Assignments:
WK1
January 16 January 18
## Syllabus

### Introduction: Data Acquisition
- Reading: Course Syllabus
- Handout

### Instrumentation: Part 1
- Temperature and Salinity
- Reading: Chapter 1 and Handout

#### WK2
- **January 23**
  - Instrumentation: Part 2
  - Velocity and Pressure
  - Reading: Chapter 2.1-3

#### WK3
- **January 30**
  - Probability and Distributions
  - Reading: Chapter 3.3

#### WK4
- **February 6**
  - Data Processing: Quick-looks
  - and Graphical Representation
  - Reading: Chapter 2.4, Handout

#### WK5
- **February 13**
  - Interpolation and Splines
  - Reading: Chapter 3.17

#### WK6
- **February 20**
  - Causation, Degrees of Freedom,
  - Confidence
  - Reading: 3.13, 3.15

#### WK7
- **February 27**
  - Linear Estimation and Regression
  - Reading: Chapter 3.12, 3.13

#### WK8
- **March 6**
  - Fourier Series
  - Reading: Chapter 5.4, Handout

#### March 12-16
- Spring Break

#### WK9
- **March 20**
  - Convolution, Correlation Function
  - Reading: 5.8 Notes

#### March 22
- Scale Estimation
- Reading: Notes

## Homework Due Dates
- **Homework 0 due**: WK2, January 25
- **Homework 1 due**: WK5, February 15
- **Homework 2 due**: WK7, February 22
- **Homework 3 due**: WK9, March 22
### OCNG 657 Data Methods in Oceanography

**Instructor:** S. F. DIMarco

### Syllabus

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<th>WK10</th>
<th>March 27</th>
<th>March 29</th>
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<tr>
<td></td>
<td>Scales examples</td>
<td>Filtering and Smoothing</td>
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<td>Reading: Notes</td>
<td>Reading: Chapter 5.6</td>
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<td>Digital Filters: theory</td>
<td>Choosing the best filter</td>
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<td>Reading: Chapter 5.10</td>
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<td>Handout</td>
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<td>Cross-spectra and coherency</td>
<td>Additional spectral methods, Harmonic Analysis</td>
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<td>Reading: 5.8</td>
<td>Reading: Chapter 5.5-5.7</td>
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<td>EOFs: Theory and Programming</td>
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<td>Reading: Chapter: 4.1 – 4.3</td>
<td>Reading: Chapter 4.3, Handout, Notes</td>
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<th>April 24</th>
<th>April 6</th>
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<tr>
<td></td>
<td>Wavelets: theory</td>
<td>Data Management and Project Legacy</td>
</tr>
<tr>
<td></td>
<td>Reading: Chapter 5.9</td>
<td>Reading: Notes, Handout</td>
</tr>
<tr>
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<td></td>
<td><strong>Homework 5 due</strong></td>
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**Finals** May 8, 2018, 8:00-10:00 AM (Final is likely take home.)

### Resources:
Access to University computing resources, e.g. Virtual Desktop. MATLAB access through University site license.

**Course Website:**
Course GoogleTeam Drive
Resources: [http://adcp.tamu.edu/~stevendimarco/OCNG657](http://adcp.tamu.edu/~stevendimarco/OCNG657)

### Americans with Disabilities Act (ADA):
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For more information regarding plagiarism in GEOS 470, please see the instructor or the handout “Assignment Guidelines”.

**Academic Integrity**

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

For additional information please visit [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).
Course Change Request

Date Submitted: 06/06/18 2:10 pm

Viewing: PHPM 685 : Directed Study

Last edit: 06/06/18 2:10 pm
Changes proposed by: monica-a-garza

Catalog Pages referencing this course

Department of Health Policy and Management
PHPM - Public Hlth Pol & Mgmt

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monica Garner</td>
<td><a href="mailto:magarner@sph.tamhsc.edu">magarner@sph.tamhsc.edu</a></td>
<td>979-436-9483</td>
</tr>
</tbody>
</table>

Rationale for Course

Edit

The proposed changes are part of a routine curriculum review.

Course Change Request

Course prefix: PHPM
Course number: 685
Department: Health Policy & Management
College/School: Public Health
Academic Level: Graduate
Effective term: 2019-2020

Complete Course Title
Directed Study
Abbreviated Course Title
DIRECTED STUDY

Catalog course description
Student investigation of a topic not covered by other formal courses.

Prerequisites and Restrictions
Approval of student's academic advisor.

Should catalog prerequisites / concurrent enrollment be enforced?
No

Crosslistings
No
Crosslisted With

Stacked
No
Stacked with

Semester
Credit Hour(s)
Contact Hour(s)
(per week)
Lecture: 0
Lab: 0
Other: 1-9
Repeatable for credit? Yes

Approval Path

1. 06/06/18 2:11 pm
   Monica Garner (monica-a-garza): Approved for PHPM Reviewer
2. 09/23/18 11:55 am
   Mike Morrisey (morrisey): Approved for PHPM Department Head
3. 09/24/18 3:05 pm
   Terra Bissett (t.bissett): Approved for Curricular Services Review
4. 10/07/18 11:28 am
   Rick Danko (danko): Approved for PH Committee Preparer
5. 10/16/18 12:53 pm
   Szu-hsuan Lin (micheyszu): Approved for PH Committee Chair
6. 10/16/18 4:43 pm
   Jay Maddock (maddock): Approved for PH College Dean
7. 10/29/18 8:51 am
   LaRhesa Johnson (lrjohnson): Approved for GC Preparer
8. 11/01/18 3:45 pm
   LaRhesa Johnson (lrjohnson): Approved for GC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/?role=Faculty%20Senate
Number of times repeated for credit 6  - OR - Maximum number of hours 6

When will this course be repeated? Within a student’s career

CIP/Fund Code 5122110014 512211

Default Grade Mode Letter Grade (G)

Method of instruction Independent Study

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) No

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? No

This will be a required course or an elective course for the following programs:

<table>
<thead>
<tr>
<th>Required (select program)</th>
<th>Program(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(MPH-PHPM) Master of Public Health in Health Policy Management</td>
</tr>
</tbody>
</table>

Elective (select program)

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### Course Syllabus

Syllabus: Upload syllabus

Upload syllabus: PHPM 685 Directed Study.docx

Letters of support or other documentation No

Additional information

Reviewer Comments

Terra Bissett (t.bissett) (05/17/18 8:37 am): Rollback: Semester credit hours and contact hour change. This type of change requires a syllabus to be attached. Please attach a sample syllabus; Provide complete CIP code on form.

Terra Bissett (t.bissett) (05/21/18 1:20 pm): Rollback: Please provide complete 10 digit CIP Code on form;

Syllabus: Update course title - Directed Studies

Terra Bissett (t.bissett) (09/24/18 2:56 pm): Updates received.

Terra Bissett (t.bissett) (09/24/18 2:58 pm): Should the course title be changed to "Directed Studies' to be consistent with the name used for standard courses?

Szu-hsuan Lin (micheyszu) (10/16/18 12:53 pm): SPH CC Approve the course.
Instructor Information

Course title and number  PHPM685 Directed Studies
Term (e.g., Fall 200X)  Summer, 2018
Meeting times and location  TBD

Instructor Name(s)  Dr. Hye-Chung Kum
Teaching Assistant(s)  979-436-9439
Telephone number  kum@tamu.edu
Email address  by appointment via email
Office hours  SPH room 124
Office location

Course Description

This graduate level directed study class will allow students to explore research topics of interest with guidance by PHPM faculty. Overall, the class will increase student knowledge of the research topics and improve critical thinking, communication and presentation skills.

Prerequisites

Approval of instructor

Course Competencies and Objectives

This course is focused on developing the following competencies.

<table>
<thead>
<tr>
<th>SPH Competencies: “Upon completion of this course a student should be able to ...”</th>
<th>Course Objectives (LINKED TO Competencies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceive of a research design that would allow these hypotheses to be tested in a manner that would stand up to peer review, including appropriate hypothesis-generating and hypothesis-testing research.</td>
<td>Conceive of and understand the different methods to build the required measures for the analysis using the raw data available, and conduct sensitivity analysis to understand the impact of the different methods for building the same measure, then select the most appropriate measure for the given research.</td>
</tr>
<tr>
<td>Execute quantitative and qualitative analytical techniques appropriate to the research design and data studied.</td>
<td>Execute the planned data intensive research in a tractable and replicable manner by building a data flow process for converting the raw data into the analytic data, and then to conduct the analysis into results. The process should be modular so that it is agile for quick and accurate modifications to the research plan to adapt as necessary during execution of the plan, including the revisions to respond to review comments from journal submissions.</td>
</tr>
<tr>
<td>Draw appropriate conclusions about the research undertaken.</td>
<td>Draw appropriate conclusions from the analysis using available observational (operational) data fully understanding the limitations which result in selection biases and measurement validity and reliability issues including appropriate interpretations of results from sensitivity analysis.</td>
</tr>
</tbody>
</table>
Textbook and/or Resource Material
None.

Course Topics, Calendar of Activities, Major Assignment Dates, Grading Policies
The course topic will be dependent on the research topic of interest. All students are expected to develop and submit a research plan by 25% of class based on the topic of interest. The instructor will suggest edits and together have an approved plan of study by the half point class which will specify final project deliverables and due dates. Grades will be based on final project deliverables.

| Final Project Deliverables | 100% |

Attendance and Make-up Policies
The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at http://student-rules.tamu.edu/rule07.

Participation is an important part of this class. Students will be evaluated on the quantity and quality of their participation in class discussions of the assignments and papers. Being on time to class and regular class attendance are considered critical parts of participation in this class. If you need to miss class for reasons under excused absences as outlined in the student rules (see link above), please arrange with the instructor to make up any missed assignments.

Other Pertinent Course Information
Every effort will be made to ensure that power point lecture files, notes, articles and assignments are available online in a timely manner. Handouts, changes in assignments or the schedule of class modules will be announced on the eCampus site. E-mail contact will be initiated with all students the first week of class. If you do not have access to your assigned TAMHSC e-mail account, it is your responsibility to make the instructor aware of that fact so that other arrangements may be made. You are expected to use Blackboard e-mail address for all official correspondence.

eCampus (Blackboard)
If this course uses eCampus: Within the course’s eCampus site you will access the learning materials, tutorials, and syllabus; discuss issues; submit assignments; take quizzes; email other students and the instructor; participate in online activities; and display your projects.

In order to access the course material you will need to go to login into Howdy and then click the eCampus button on the top right or look for Quick Links on the bottom of the School’s homepage or go to http://ecampus.tamu.edu Please do not contact your instructor with technical problems. If you are having a technical problem with the course, review the Blackboard Learn Tutorials (at the top-right of School’s Office of Academic Assessment and Instructional Technology website). For login issues (password not working), please contact TAMU Help Desk at helpdesk@tamu.edu via E-mail, or phone to (979) 845-8300. Your eCampus login is the same as your Howdy login (NetID).

Computer Requirements for Online Courses
For this and all online courses we recommend the minimum technical requirements outlined on our “SPH Computer Requirements for Online Courses” web page, located at http://www.sph.tamhsc.edu/assessment-instructional/com-requirement.html

All computing problems or other technical issues not related to eCampus, please contact:
- TAMHSC related account: helpdesk@tamhsc.edu via E-mail, or phone to (979) 862-8029
- TAMU related account: helpdesk@tamu.edu via E-mail, or phone to (979) 845-8300

Important!!! Save your work as you go along. Nothing is more discouraging than to lose an assignment due to
a computer hang ups! You may want to also make hard copies of your work to have “proof” and save yourself time and trouble!

### Plagiarism Virtual Course

Plagiarism is the leading form of academic dishonesty that the School of Public Health has to address. As a SPH student, you are responsible for knowing what plagiarism is and how to avoid it. All SPH students are automatically enrolled in Plagiarism Virtual Course on eCampus. This virtual course provides you with information and examples related to plagiarism in an effort to reduce the number of reported incidents. Please find a tutorial and resources under "Content." In addition, please find Turnitin, a software package that allows you to check whether you may have plagiarized your document. Please see Phuong Huynh: phuong@sph.tamhsc.edu for additional information.

### Course Evaluation

Constructive feedback from students on course evaluations is taken very seriously at the School of Public Health. I am asking for your assistance in helping the School in its assessment of courses and faculty through your participation in the evaluation of your courses. As public health professionals you will one day have the responsibility to evaluate colleagues and health initiatives. The School views providing feedback on the School’s courses as part of your professional responsibility.

### SPH Mission

Our mission is to create and apply knowledge acquired from the disciplines of public health to the education of public health leaders and practitioners through our research, practice, and service in the state of Texas, nationally, and globally.

### Americans with Disabilities Act (ADA)

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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

### Academic Integrity

Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. Students are expected to adhere to all TAMUS, TAMU, HSC, and School policies regarding academic integrity and classroom conduct. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used, or tampering with the academic work of another student. Individuals found guilty of academic dishonesty may be dismissed from the degree program, and at a minimum will receive an F for the course. It is the student’s responsibility to have a clear understanding of how to reference other individuals’ work, as well as having a clear understanding in general as to the various aspects of academic dishonesty. A tutorial on this issue is available at: http://SPH.tamhsc.edu/academic-affairs/academic-integrity.html. A plagiarism tutorial can be found in Blackboard. Information on the Aggie Honor Code can be found at http://aggiehonor.tamu.edu.

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

### Copyright Statement

The materials used in this course 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 by the instructor.

Updated 7/22/15
FERPA

The Federal Education Rights & Privacy Act requires that we advise students that by registering for this course, their HSC assigned e-mail address will be revealed to classmates and the instructor. By continuing your enrollment in the course you acknowledge your understanding of this policy. By enrolling in this course you agree to the following statement: “I understand that as a result of registering for this course, my HSC/Blackboard assigned e-mail address will be revealed to classmates and the instructor.”

Equal Opportunity Statement

The Texas A&M Health Science Center is an Equal Opportunity/ Affirmative Action employer. Inquiries regarding nondiscrimination policies may be directed to the Human Resources Officer by phone at (979) 436-9208, email hr@tamhsc.edu, or by mail at 200 Technology Way, College Station, TX 77845.

DISCLAIMER

This syllabus is representative of materials that will be covered in this class; it is not a contract between the student and the institution. It is subject to change. These changes will be communicated via email or posted as announcements. If you have any problems related to this course, please feel free to discuss them with the instructor.

Title IX

Title IX of the Education Amendments of 1972 protects people from sex discrimination in educational programs and activities at institutions that receive federal financial assistance. Texas A&M University and the Texas A&M Health Science Center are committed to maintaining a learning environment that is free from discriminatory conduct based on gender. As required by Title IX, the University does not discriminate on the basis of sex in its education programs and activities, and it encourages any student or non-student who thinks that he or she has been subjected to sex discrimination, sexual harassment (including sexual violence) or sexual misconduct by another student, member of the faculty or staff, or campus visitor or contractor, to immediately report the incident to any of the individuals persons or offices listed below.

WHERE TO REPORT:
James Nachlinger,
Executive Director, Payroll and HR Services
Title IX Coordinator
979-436-9207
nachlinger@tamhsc.edu

The University encourages students to immediately consult with or report incidents of sex discrimination, sexual harassment (including sexual violence) or sexual misconduct to the TAMHSC Title IX Coordinator. Students may also report incidents of sex discrimination, sexual harassment (including sexual violence) or sexual misconduct to any School of Public Health administrator, university administrator, official or unit supervisor, who is then responsible for promptly notifying any of the above Title IX coordinators of the reported incident.
Course Change Request

Date Submitted: 08/31/18 4:59 pm

Viewing: SCSC 626: Soil Mineralogy

Last edit: 09/14/18 3:41 pm

Changes proposed by: taylor_barfield

<table>
<thead>
<tr>
<th>Catalog Pages referencing this course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Soil and Crop Sciences</td>
</tr>
<tr>
<td>SCSC - Soil and Crop Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Courses referencing this course</th>
</tr>
</thead>
<tbody>
<tr>
<td>As A Banner Prerequisite:</td>
</tr>
<tr>
<td>SCSC 628: Soil Mineralogy Lab</td>
</tr>
</tbody>
</table>

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taylor Barfield</td>
<td><a href="mailto:taylor_barfield@tamu.edu">taylor_barfield@tamu.edu</a></td>
<td>979-845-4620</td>
</tr>
</tbody>
</table>

Rationale for Course

Edit

The proposed changes are to meet the demand/interest of students.

Course prefix     SCSC          Course number 626
Department         Soil & Crop Sciences
College/School     Agriculture & Life Sciences
Academic Level     Graduate
Academic Level (alternate) Undergraduate
Effective term     2019-2020

Complete Course Title

Soil Mineralogy

Abbreviated Course Title

SOIL MINERALOGY

Catalog course description

Crystal structures and properties of important minerals in soils and sediments especially clay minerals and oxides combined with identification techniques involving theory and practice with x-ray diffraction, electron microscopy, infrared and chemical methods.

Prerequisites and Restrictions

Concurrent Enrollment  No
Should catalog prerequisites / concurrent enrollment be enforced? Yes

Crosslistings  No

Approval Path

1. 08/30/18 10:11 am Wayne Smith (cwsmith): Approved for SCSC Reviewer GR
2. 08/30/18 10:13 am David Baltensperger (dbaltensperger): Approved for SCSC Department Head
3. 08/31/18 3:17 pm Terra Bisse (t.bisse): Rollback to Initiator
4. 09/14/18 3:30 pm Wayne Smith (cwsmith): Approved for SCSC Reviewer GR
5. 09/14/18 3:32 pm Wayne Smith (cwsmith): Approved for SCSC Department Head
6. 09/14/18 3:42 pm Terra Bisse (t.bisse): Approved for Curricular Services Review
7. 09/17/18 10:07 am Dawn Kerstetter (dkerstetter): Approved for AG Committee Preparer GR
8. 10/17/18 3:52 pm Dawn Kerstetter (dkerstetter): Approved for AG Committee Chair GR
Semester: 3  
Credit Hour(s): 3  
Contact Hour(s): 3  
Lecture: 3  
Lab: 0  
Other: 0  
Total: 3

Repeatable for credit? No  
Three-peat? No  
Option to alter credit? No  
Repeatable for contact hours? No

CIP/Fund Code: 0112010005  
Default Grade Mode: Letter Grade (G)  
Alternate Grade Modes: Satisfactory/Unsatisfactory  
Method of instruction: Lecture

Will this course be taught as a distance education course? No  
Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)  
Elective (select program)

<table>
<thead>
<tr>
<th>Program(s)</th>
</tr>
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<tbody>
<tr>
<td>(PHD-SOSC) Doctor of Philosophy in Soil Science</td>
</tr>
<tr>
<td>(MS-SOSC) Master of Science in Soil Science</td>
</tr>
</tbody>
</table>

**Course Syllabus**

Syllabus: Upload syllabus

Letters of support or other documentation: No

Additional information: Prerequisite for this course is being removed.

Reviewer Comments:  
Terra Bissett (tbissett) (08/31/18 3:17 pm): Rollback: Please clarify. Unsure of what is being changed?  
Terra Bissett (tbissett) (09/14/18 3:41 pm): Department is removing enforced prerequisites.  
Terra Bissett (tbissett) (09/14/18 3:42 pm): Syllabus is not required for this type of change.

Reported to state? No