Course Change Request

New Course Proposal

Date Submitted: 10/19/18 3:04 pm

Viewing: **BIOL 621 : R for Biologists**

Last edit: 03/05/19 11:28 am

Changes proposed by: ljean

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lieu Jean</td>
<td><a href="mailto:ljean@bio.tamu.edu">ljean@bio.tamu.edu</a></td>
<td>979-862-4093</td>
</tr>
</tbody>
</table>

Course prefix: BIOL Course number: 621

Department: Biology

College/School: Science

Academic Level: Graduate

Academic Level (alternate): Undergraduate

Effective term: 2020-2021

Complete Course Title: R for Biologists

Abbreviated Course Title: R FOR BIOLOGISTS

Catalog course description:
Free software environment and coding language for statistical computing and graphics production, including all stages of biological research and attention to how research can be conducted in an open and reproducible manner; manage data, use existing packages, develop new packages and web apps and produce publication quality figures.

Prerequisites and Restrictions
Graduate classification.

Concurrent Enrollment: No

Should catalog prerequisites / concurrent: No

In Workflow
1. BIOL Department Head
2. Curricular Services Review
3. SC Committee Preparer GR
4. SC Committee Chair GR
5. SC 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. 07/12/18 2:46 pm
   Thomas McKnight (tdmcknight): Approved for BIOL Department Head

2. 07/13/18 11:50 am
   Terra Bissett (t.bissett): Rollback to Initiator

3. 10/19/18 3:09 pm
   Thomas McKnight (tdmcknight): Approved for BIOL Department Head

4. 10/22/18 5:03 pm
   Terra Bissett (t.bissett): Approved for Curricular Services Review

5. 11/12/18 2:48 pm
   Kristy Vela (kdvela): Approved
enrollment be enforced?

Crosslistings No Crosslisted With

Stacked No Stacked with

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

Repeatable for credit? No

Three-peat? No

CIP/Fund Code 2611020002

Default Grade Letter Grade (G)

Method of instruction

Lecture

Will this course be taught at another branch? No

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:
**Course Syllabus**

Syllabus: Upload syllabus

Upload syllabus [BIOL621-syllabus.pdf](BIOL621-syllabus.pdf)

Letters of support or other documentation: No

Additional information:

Reviewer Comments:

- **Terra Bissett (t.bissett) (07/13/18 11:49 am):** Edits made to form and course description to comply with catalog style guide.
- **Terra Bissett (t.bissett) (07/13/18 11:50 am):** Rollback: Please complete 'contact hours' section on form.
- **Terra Bissett (t.bissett) (10/22/18 5:03 pm):** Updates received.

Reported to state?

- Add
- CS

Key: 18607
R for Biologists - BIOL 621
Fall 2019

Time and Location
TBD
TBD

Instructor Information
Heath Blackmon
979-862-4880
hblackmon@bio.tamu.edu
Office hours: TBD
BSBW 309

Course Description and Prerequisites
R is a free software environment and coding language for statistical computing and graphics production. This course is intended to provide students with advanced level proficiency in R. The use of R at all stages of biological research will be covered. Throughout the course special attention will be paid to how research can be conducted in an open and reproducible manner. At the end of the course, successful students will be able to manage data, use existing packages, develop new packages and web apps, and produce publication quality figures.

Learning Outcomes
Articulate at least two causes and possible solutions to the reproducibility crisis
Write R code that conforms to standard R style guidelines
Convert typical data from Excel files and read into R and reformat
Evaluate plots and identify cases of poor data/ink ratio, dishonest design, and chart junk
Produce histograms, bar plots, scatter plots, phylogenies, and heatmaps
Produce eps, pdf, and jpg versions of plots suitable for submission to a journal
Effectively use basic R biology packages to analyze example datasets
Create an R package with proper documentation that can be installed through GitHub
Use Rmarkdown to create a literate analysis script that others can follow
Create a Web app and push to http://www.shinyapps.io/
Perform line profiling to identify slow code

Required resources
Personal laptop computer
Grading Policy
A total of 100 points are available in the course: 4 challenge assignments (10 points each), two exams (25 points each), and class participation (10 points). The breakdown of grades will be:

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

Attendance Policy
If an absence is excused, a make-up assignment will be assigned. Make up assignments will be due on a date agreed upon by the student and instructor. All make up work must be completed in a timeframe not to exceed 30 calendar days from the last day of the initial absence. For more information see student rule 7 http://student-rules.tamu.edu/rule07

Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Packages and Readings</th>
<th>Assignments</th>
</tr>
</thead>
</table>
| 1    | The benefits of open science and reproducible research; Review of R basics | Baker 2016  
Nuzzo 2014 |  |
| 2    | RStudio; R Style; Project management | Google style guide |  |
| 3    | Data structures and best practices | Packages: dplyr; tidyr | Challenge 1 |
| 4    | Data visualization principles; Exploratory data visualization | Tuftexcerpt |  |
| 5    | Publication quality plots | Packages: base viridis | Challenge 2 |
| 6    | Publication quality plots | Packages: ggplot |  |
| 7    | Mid-Term Exam |  |  |
| 8    | existing packages in Ecology/Evolution | Packages: ape, vegan, phytools |  |
| 9    | existing packages in Genetics/Genomics | Packages: Bioconductor | Challenge 3 |
| 10   | Package development and documentation | Packages: roxygen |  |
| 11   | Package development and documentation | Packages: knitr |  |
| 12   | Reproducible research using Rmarkdown |  | Challenge 4 |
| 13   | Web app development in Shiny | Packages: shiny |  |
| 14   | Profiling and improving code | Packages: lineprof |  |
| 15   | Final Exam |  |  |
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.

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

New Course Proposal

Date Submitted: 11/21/18 9:09 am


Last edit: 03/05/19 11:29 am
Changes proposed by: bob-knight

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bob Knight</td>
<td><a href="mailto:bob-knight@tamu.edu">bob-knight@tamu.edu</a></td>
<td>979-845-5557</td>
</tr>
</tbody>
</table>

Course prefix ESM Course number 646

Department Ecosystem Science & Mgmt
College/School Agriculture & Life Sciences
Academic Level Graduate
Academic Level (alternate) Undergraduate
Effective term 2020-2021

Complete Course Title
Unmanned Aerial Systems (UAS) for Remote Sensing

Abbreviated Course Title UNMANNED AERIAL SYSTEMS

Catalog course description
Fundamental components of small unmanned aerial systems (sUAS), sensors and platforms, UAS operational concepts, the principles of UAS data collection, legal framework within which UAS should be operated and applied, data processing software and the generation of orthomosaics and 3D point clouds, emphasizes the use of UAS in a broad spatial sciences, technology and applications context, including vegetated ecosystems.

Prerequisites and Restrictions
ESSM 655 or approval of instructor.

Concurrent Enrollment No
Should catalog prerequisites/concurrent enrollment be enforced?  Yes

Curricular Services Review
5. 12/11/18 2:20 pm
Dawn Kerstetter (dkerstetter):
Approved for AG Committee
Preparer GR
6. 01/23/19 4:35 pm
Dawn Kerstetter (dkerstetter):
Rollback to ESSM Reviewer GR for AG Committee
Chair GR
7. 02/07/19 1:04 pm
Georgianne Moore (gwmoore):
Approved for ESSM Reviewer GR
8. 02/07/19 1:05 pm
Georgianne Moore (gwmoore):
Approved for ESSM Department Head
9. 02/08/19 2:28 pm
Terra Bissett (t.bissett):
Approved for Curricular Services Review
10. 02/08/19 3:04 pm
Dawn Kerstetter (dkerstetter):
Approved for AG Committee
Preparer GR
11. 02/12/19 4:32 pm
Dawn Kerstetter (dkerstetter):
Approved for AG Committee Chair GR
12. 02/13/19 2:09 pm
Dawn Kerstetter (dkerstetter):
Approved for AG College Dean GR
13. 02/26/19 11:50 am
### Enforced Prerequisites / Concurrent Enrollment

<table>
<thead>
<tr>
<th>And/Or</th>
<th>Course Prefix/Number</th>
<th>Min Grade/Score</th>
<th>Academic Level</th>
<th>Concurrency?</th>
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<tbody>
<tr>
<td></td>
<td>ESSM 655</td>
<td>C</td>
<td>GR</td>
<td></td>
</tr>
</tbody>
</table>

- **Crosslistings**: No
- **Stacked**: Yes
  - Crosslisted With: ESSM 446 - Unmanned Aerial Systems (UAS) for Remote Sensing
  - Stacked with: ESSM 446 - Unmanned Aerial Systems (UAS) for Remote Sensing

<table>
<thead>
<tr>
<th>Semester</th>
<th>3</th>
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<tbody>
<tr>
<td>Credit</td>
<td>3</td>
</tr>
<tr>
<td>Hour(s)</td>
<td>Lecture: 2, Lab: 2, Other: 0, Total: 4</td>
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- Repeatability for credit: No
- Three-peat: No
- CIP/Fund Code: 4507020006
- Default Grade Mode: Letter Grade (G)
- Alternate Grade Modes: Satisfactory/Unsatisfactory
- Method of instruction: Lecture and Laboratory
- Will this course be taught at another branch?: No
- 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? 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)

<table>
<thead>
<tr>
<th>Program(s)</th>
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<tbody>
<tr>
<td>(MS-ESSM) Master of Science in Ecosystem Science and Management</td>
</tr>
<tr>
<td>(PHD-ESSM) Doctor of Philosophy in Ecosystem Science and Management</td>
</tr>
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</table>

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus: ESSM 446-646 UAS-syllabus -Spring 2019.pdf

Letters of support or other documentation: No

Additional information: Course will be taught as a 689 Spring 2019. Combined syllabus has different requirements for undergraduates and graduate students.

Reviewer Comments

Georgianne Moore (gwmoore) (11/07/18 10:32 am): Rollback: Graduate course stacked with undergrad course must provide additional requirements for graduate credit. Only the undergraduate syllabus was attached. Also, was this course offered previously as a 689/489 or only 489? Please clarify prior offerings.

Terra Bisse (t.bisse) (12/11/18 2:13 pm): Minor edits made to form to comply with catalog style guide. Updated catalog prerequisites to correspond with syllabus.

Dawn Kerstetter (dkerstetter) (01/23/19 4:35 pm): Rollback: Per GPC’s meeting-friendly motion: Learning objectives for graduate courses should use higher level verbs (see UCC website list). May be an issue at Graduate Council level.

Georgianne Moore (gwmoore) (02/07/19 1:04 pm): Syllabus re-uploaded as ESSM 646 with improved learning outcomes per request from COALS GPC

Reported to state?

Add

CS

Key: 18944
<table>
<thead>
<tr>
<th>Course title</th>
<th>Unmanned Aerial Systems (UAS) for Remote Sensing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course number</td>
<td>ESSM 446/646</td>
</tr>
<tr>
<td>Course date</td>
<td>Spring Semester 2019</td>
</tr>
<tr>
<td>Lecture times</td>
<td>Lectures: Monday, Wednesday, 12:40 to 1:30 pm, WFES 315</td>
</tr>
<tr>
<td>Laboratory times</td>
<td>Wednesday, 2:00 - 4:00 pm, WFES 315</td>
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</table>

**Instructor information**

<table>
<thead>
<tr>
<th>Instructors</th>
<th>Sorin Popescu and Lonesome Malambo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>WFES 334/362</td>
</tr>
<tr>
<td>Office hours</td>
<td>Open door policy, though I recommend emailing or calling for appointments. Please put course code in the subject of email messages regarding this class to receive prompt attention. Please avoid “drop-ins” just before class time; you are welcome any other time.</td>
</tr>
<tr>
<td>Contact</td>
<td>Phone: (979) 862-2614; Email: <a href="mailto:s-popescu@tamu.edu">s-popescu@tamu.edu</a>, <a href="mailto:mmoonga@tamu.edu">mmoonga@tamu.edu</a></td>
</tr>
<tr>
<td>Teaching Assistant</td>
<td>TBD</td>
</tr>
<tr>
<td>Course website</td>
<td><a href="http://ecampus.tamu.edu">http://ecampus.tamu.edu</a></td>
</tr>
</tbody>
</table>

**Course description**

Recent years have seen a proliferation of Unmanned Aerial Systems (UAS) or drones of different shapes, capability and use. Given the low cost and flexibility of carrying various sensor payloads, UAS are now an emerging tool for image data collection for researcher, students and practitioners in various disciplines. This course introduces students to the fundamental components of small unmanned aerial systems (sUAS), sensors and platforms, UAS operational concepts, the principles of UAS data collection, the legal framework within which UAS should be operated and applied, data processing software and the generation of orthomosaics and 3D point clouds. The course emphasizes the use of UAS in a broad spatial sciences, technology and applications context, including vegetated ecosystems.
Prerequisites: ESSM 444/ESSM 655 or equivalent approved by instructor. Junior or Senior Classification for the undergraduate section. Prior coursework or experience in remote sensing and GIS topics is highly recommended for the most beneficial learning experience.

Learning outcomes

Upon the completion of this course, students will be able to:

- Summarize and identify essential components of sUAS
- Describe the legal requirements for UAS operations in the United States of America
- Select the right UAS platform, rotary or fixed wing, for a specific application
- Prepare and execute UAS flight surveys;
- Describe fundamental concepts of photogrammetry and structure from motion
- Develop visualizations of various datasets generated from structure from motion
- Design methodologies and software procedures for data processing and generation of mapping products

Course textbooks

No required textbook; Recommended readings assigned weekly.

Grading

10-point break-out system

- 90.0 – 100 = A Excellent
- 80.0 - 89.9 = B Good
- 70.0 – 79.9 = C Satisfactory
- 60.0 – 69.9 = D Passing
- 00.0 – 59.9 = F Fail

Lab assignments: 25% (due at the beginning of the following lab period)

Project: 20% (25% for the graduate section)

Quizzes: 10% (online and in-class)

Midterm exam: 20% 

Final exam: 25% (20% for the graduate section with additional exam questions)

Lab assignments: All lab work is due at the beginning of the following lab period. All laboratory and homework assignments are to be completed in a neat, logical, and clear fashion.

Late assignments: A 10% reduction in grade, up to a maximum of 50%, will be assessed for each weekday an assignment is handed in late. Assignments will not be accepted if more than 5 weekdays late, unless documented excuse is presented as per Texas A&M University rules (http://student-rules.tamu.edu/rule07 and http://student-rules.tamu.edu/rule10).

Exams: exams for the graduate section may include additional questions.
# Course outline

## 1. Introduction to Unmanned Aerial Systems (Week 1)
   a. Historical context to the development of UAS
   b. Civilian UAS applications in various disciplines
   c. Fundamental components of UAS
   d. Classification of UAS and characteristics, payloads
   e. UAS essential systems – GPS, IMU, barometers etc.

*Readings:*

*Lab Quiz*

## 2. Rules and regulations for UAS operations (Week 2-3)
   a. Rules and regulations governing operating a UAS in the United States of America
      i. Airspace classifications, operating requirements and flight restrictions
      ii. Principles of crew resource management
      iii. Weather conditions, individual physiological factors, UAS loading in relation to UAS safety
      iv. Expected emergency procedures
   b. Outlines UAS guidelines for Texas A&M system

*Readings:*
  TAMU Risk Compliance: https://agrilifeas.tamu.edu/risk-compliance/research-compliance/risk-and-compliance-unmanned-aircraft-systems/

*Lab Quiz*

## 3. Elements of photogrammetry and remote sensing (Week 4 - 6)
   a. Elementary concepts of photogrammetric image capture and flight planning
   b. Guidelines on image overlap, flight altitude and ground control for UAS surveys
   c. Sensor calibration overview
   d. Multispectral image structure

*Readings:*

*Lab Quiz*
4. **UAS flight planning and image acquisition (Week 7 - 8)**
   a. Auto-pilot, ground control & flight planning applications
   b. Considerations in selecting UAS platforms

**Readings:**

**Lab**

**Quiz**

5. **Photogrammetric and Structure from Motion workflows (Week 9 - 10)**
   a. Generation of digital data products such as point clouds, orthomosaics and digital surface models

**Readings:**


**Lab**

**Quiz**

6. **Review of existing commercial and open-source software solutions for processing UAS data (Week 11)**

**Readings**


**Lab**

**Quiz**

7. **Preprocessing, analysis and visualization of image mosaics and point cloud data (Week 12 - 13)**
   a. Calculation of spectral indices
   b. Point cloud thinning, noise filtering, ground filtering
   c. Plant height, cover and biomass estimation
   d. Point cloud visualization

**Readings**

**Lab**

**Quiz**

8. **Finalize and present class project with UAS application (Week 14)**
### Tentative laboratory schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stereoscopic viewing of aerial images. UAS types and sensors: Tour of LASERS (Dr. Popescu) lab.</td>
</tr>
<tr>
<td>2</td>
<td>Flight planning: Ground sample distance; image overlap and flight altitude, ground control</td>
</tr>
<tr>
<td>3</td>
<td>Flight demo and image acquisition.</td>
</tr>
<tr>
<td>4</td>
<td>Introduction to image visualization (ArcGIS) and Pix4Dmapper: project organization, graphical user interface, processing parameters settings; Key-point generation.</td>
</tr>
<tr>
<td>5</td>
<td>UAS image processing with Pix4Dmapper (1): key-point optimization, matching, quality report.</td>
</tr>
<tr>
<td>6</td>
<td>UAS image processing with Pix4Dmapper (2): Point cloud densification</td>
</tr>
<tr>
<td>7</td>
<td>UAS image processing with Pix4Dmapper (3): Digital surface model and orthomosaic generation.</td>
</tr>
<tr>
<td>8</td>
<td>Change analysis using multi-date point clouds. Change analysis using Digital surface models.</td>
</tr>
<tr>
<td>9</td>
<td>3D modeling from terrestrial photos</td>
</tr>
<tr>
<td>10</td>
<td>Project work</td>
</tr>
<tr>
<td>11</td>
<td>UAS data visualization; progress reports due</td>
</tr>
<tr>
<td>12</td>
<td>UAV image processing with open-source software</td>
</tr>
<tr>
<td>13</td>
<td>Project work</td>
</tr>
<tr>
<td>14</td>
<td>Student project presentations</td>
</tr>
</tbody>
</table>

### Laboratory, homework, and exam policy

The University policy on Scholastic Dishonesty will be enforced in this course. While you are encouraged to help each other understand concepts and techniques, all work submitted should be your own. Exceptions to this policy will be explicitly noted by the instructor and should not be assumed by students. Make-up exams will not be offered. If you are going to miss an exam for a valid reason (documented per University rules, [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07)), **contact the instructor well in advance, if possible. Exams for the graduate section have more questions than the undergraduate section.**

### Laboratory reports

Unless otherwise indicated, all laboratory exercises must contain a brief report following the format guidelines given below. The report should be divided into **Introduction, Methods, Results and Discussion, and Conclusions** sections, and should tie together and synthesize the lecture, readings, and practical exercises. In the Methods section **do not** include a list of software commands that you have used. Give instead the big picture of your approach and the remote sensing/image processing methods that you have used. You may include an appendix of software commands used, for future references. Figures and tables inserted in the text are encouraged. When appropriate, include snapshots of your imagery in the report, mainly in the Results section, but no larger than half a page. Each laboratory exercise will be due the following laboratory...
period, at the beginning of class, unless otherwise indicated. Instructor may give extra credit to students that engage in developing the assignment beyond the required tasks.

**Format: Undergraduate students** can prepare a bullet-type report summarizing important information under each section. Lab reports must be double-spaced (using a 12-point proportionally-spaced font) with 1 inch margins all around. Captions, references, footnotes, appendices, tables, etc. may be single-spaced. Figures and tables are encouraged when they serve to illustrate or clarify a point. They should be inserted in the text. Each page following the first full page of text should have a page number in the upper right corner or bottom center. A title page may be included. Citations should follow the format of peer-reviewed remote sensing journals. Final projects must be printed using the same criteria. Students are required to keep **electronic** copies of all work submitted. Class assignments will be submitted via eCampus.

**Format: Graduate students** needs to prepare manuscript draft-type reports, with elaborate text sections. Lab reports must be double-spaced (using a 12-point proportionally-spaced font) with 1 inch margins all around. Captions, references, footnotes, appendices, tables, etc. may be single-spaced. Figures and tables are encouraged when they serve to illustrate or clarify a point. They should be inserted in the text. Each page following the first full page of text should have a page number in the upper right corner or bottom center. A title page may be included. Citations should follow the format of peer-reviewed remote sensing journals. Final projects must be printed using the same criteria. Students are required to keep **electronic** copies of all work submitted. Class assignments will be submitted via eCampus.

**Projects**

Each student is required to design and implement a group class project. Groups could be two or three (preferred) students. The project must use digital image source data and the student must develop a specific output product useful in his own field of interest for applying remote sensing. The project is designed to (1) build upon and synthesize techniques or concepts demonstrated in class, and (2) let you explore your own data sets and research objectives using your developing remote sensing "toolkit." Work that contributes to your thesis research or current employment is encouraged. Students may write their own image processing software, using IDL, as an integral part of the project; however, a specific (useful) output product must be one result of the project. **Group** projects tackling larger research or management issues are encouraged. All projects require instructor approval.

A proposal (150- 250 word maximum) and outline describing the project and **proposed methods** must be turned in by the date indicated in the **Important dates** section. However, students are encouraged to turn in proposals as soon as is feasible. The proposal/outline should contain at least **five** preliminary references. The final report must be no more than twenty pages in length including figures and references, and the final report and summary/outline must follow the format guidelines for papers and laboratory reports. Failure to follow these guidelines will result in the paper not being accepted. The final report must include an **abstract** of **150-250 words** that is succinct and informative without reference to the text. This should be followed by the
Introduction (including a thorough literature review, with Background and Objectives), Methods, Results, and Discussion/Conclusions.

Keep in mind that these are semester projects. Laboratory time will be provided for work on your project during the semester but will be insufficient by itself. A 2-5 page project progress report is required at the start of class as indicated in the Important dates section. Well-chosen student projects may be suitable for subsequent publication in either conference proceedings or the peer-reviewed literature. Please keep this goal in mind as you develop and carry out your projects, and particularly as you prepare your final reports.

Important dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm exam</td>
<td>Feb 20th</td>
<td>5%</td>
</tr>
<tr>
<td>Project proposals due (week 7)</td>
<td>Feb 27th</td>
<td>5%</td>
</tr>
<tr>
<td>Project progress report (week 10)</td>
<td>March 27th</td>
<td>5%</td>
</tr>
<tr>
<td>Project presentations (week 14)</td>
<td>April 22nd and 24th</td>
<td>20%</td>
</tr>
<tr>
<td>Project paper due (week 15)</td>
<td>April 29th</td>
<td>70%</td>
</tr>
<tr>
<td>Final exam</td>
<td>May 6th, Monday</td>
<td>5%</td>
</tr>
</tbody>
</table>

Aggie Code of Honor

Aggies do not lie, cheat, or steal, nor do they tolerate those who do.
The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other. http://aggihonor.tamu.edu/

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. 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/
Course Change Request

New Course Proposal

Date Submitted: 11/16/18 4:02 pm

Viewing: LAW 7859 : Probate and Estate Planning Clinic

Last edit: 03/05/19 11:29 am
Changes proposed by: arguthrie

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td>Amy Guthrie</td>
<td><a href="mailto:arguthrie@law.tamu.edu">arguthrie@law.tamu.edu</a></td>
<td>817-212-3819</td>
</tr>
</tbody>
</table>

Course prefix          LAW
Course number          7859

Department              School of Law
College/School          School of Law
Academic Level          Professional Law

Academic Level (alternate) 2019-2020 Professional

Effective term 2019-2020 Professional

Complete Course Title
Probate and Estate Planning Clinic

Abbreviated Course Title
PROBATE & ESTATE PLANNG CLINIC

Catalog course description
Representation of low-income clients in estate planning and small estate probate matters under the supervision of licensed attorneys; management of client relationships, interviews and communication with clients about their wills, powers of attorney, health care advance directives and other instruments; interview and counsel clients; instruction in substantive and procedural law, drafting and other core lawyering skills; opportunities to practice during class and clinic office hours; supervision provided by a licensed attorney.

Prerequisites and Restrictions
LAW 7091 or concurrent enrollment.

Concurrent Enrollment
No

Approval Path
1. 11/16/18 4:42 pm  Sandra Williams (sandra-williams): Approved for Curricular Services Review
2. 11/21/18 8:17 am  Terri Helge (thelge): Approved for SL College Dean
3. 01/18/19 2:26 pm  Terra Bissett (t.bissett): Approved for Curricular Services
4. 01/18/19 3:53 pm  Amy Guthrie (arguthrie): Approved for SL Committee Preparer
5. 01/28/19 2:07 pm  Terri Helge (thelge): Approved for SL College Dean
6. 02/26/19 11:51 am
Should catalog prerequisites / concurrent enrollment be enforced? Yes

Enforced Prerequisites / Concurrent Enrollment

<table>
<thead>
<tr>
<th>And/Or</th>
<th>Course Prefix/Number</th>
<th>Min Grade/Score</th>
<th>Academic Level</th>
<th>Concurrency?</th>
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<tbody>
<tr>
<td></td>
<td>LAW 7091</td>
<td>D-</td>
<td>PL</td>
<td>Yes</td>
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</table>

Crosslistings: No

Stacked: No

Semester: 3-6
Credit: 3-6
Hour(s): Lecture: 0, Lab: 0, Other: 3-6, Total: 3-6
Repeatable for credit? No
Three-peat? No

CIP/Fund Code: 2201010008
Default Grade Mode: Plus-Minus Letter Grade - Law (J)
Alternate Grade Modes: Pass/Fail - Law
Method of instruction: Clinic

Will this course be taught at another branch? No
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

LaRhena Johnson (lrjohnson): Approved for GC Preparer
7. 03/07/19 4:02 pm
LaRhena Johnson (lrjohnson): Approved for GC Chair
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:

<table>
<thead>
<tr>
<th>Required (select program)</th>
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<tbody>
<tr>
<td>Elective (select program)</td>
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<tr>
<td>Program(s)</td>
</tr>
<tr>
<td>(JD-JDLW) Juris Doctor</td>
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</table>

**Course Syllabus**

<table>
<thead>
<tr>
<th>Syllabus:</th>
<th>Upload syllabus</th>
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<tbody>
<tr>
<td></td>
<td>Upload syllabus</td>
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<tr>
<td></td>
<td>ProbateEstatePlanning.pdf</td>
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<tr>
<th>Letters of support or other documentation</th>
<th>No</th>
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<table>
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<tr>
<th>Additional information</th>
<th>Reviewer Comments</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Terra Bissett (t.bissett) (01/18/19 2:21 pm): Course was inadvertently sent through abbreviated workflow. Complete workflow has now been included within the proposal approval. Once this course reaches full approval, then it will be added at that time for Fall 2019.</td>
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<th>Reported to state?</th>
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Key: 18886
1. Course Information:

LAW-7859

3. Course Description and Prerequisites:

This course is a clinic taught by adjunct law school faculty members that involves advising or representing one or more actual clients or serving as a third-party neutral. As a primarily experiential course, this course focuses on teaching professional skills and integrates doctrine, theory and legal ethics. This course offers students multiple opportunities for performance, faculty feedback, and self-evaluation. It satisfies the requirements of ABA Standard 304(b).

Designed to provide real-world experience, this course allows students the opportunity to assist low-income senior citizens with completion of their simple estate plans. Additionally, students will have the opportunity to assist in managing small estates in which there are limited funds or no suitable heirs to handle the estate affairs.

Under the supervision of attorney-professors, students participating in this clinic will interview clients, draft estate planning and probate documents, assist their clients with the execution of their estate plans, locate heirs of the estate, and assist in all aspects of managing the decedent’s estate.

Prerequisites: One year of law school in the full-time or part-time program. Wills and Estates is recommended but not required.
4. Textbook and Other Instructional Materials:


5. Course Objectives and Learning Outcomes:

Classroom Objectives:

- Student attorneys will learn the technical and theoretical bases for the different estate planning documents used in the course, how the documents weave together to create a comprehensive plan for each client, and how to properly draft and execute each document;
- Student attorneys will be able to properly explain estate planning documents and strategies for use with clients, including integration with other dispositive designations;
- Student attorneys will learn interview skills, learn to identify potential liability issues, learn to evaluate client for testamentary and contractual capacity, and identify possible ethical violations;
- Student attorneys will learn the advantages and disadvantages of the various probate options, how to apply the appropriate procedure to each matter, and how to draft and file each document;
- Student attorneys will be able to conduct factual investigations, including consultations with family members and claimants;
- Student attorneys will learn to effectively and efficiently conduct a probate hearing, and learn to ascertain and satisfy all statutory deadlines;

Experiential Objectives:

- Student attorneys will respond to a weekly self-evaluation prompt sent by email, and will learn to examine his or her own strengths and weaknesses, identify subconscious bias, explore means to better communicate with clients, and learn how self-evaluation can strengthen each student’s practice as an attorney;
- Student attorneys will interview clients and identify the specific estate planning needs of each client;
- Student attorneys will employ learned strategies with the client to solve each client’s individual planning issues;
• Student attorneys will prepare estate planning documents according to each client’s needs, and submit those documents for professor review;
• Student attorneys will receive feedback from professor regarding documents for client and revise as necessary;
• Student attorneys will draft cover letter addressed to client explaining each document, and follow up with client to address any errors, changes, or questions;
• Student attorneys will assist client in correctly executing documents, recommending any further steps needed to reach client’s estate planning goals, and discuss safekeeping of the documents with client;
• Student attorneys will meet with professor for a one-on-one evaluation of student’s skills, areas of strength, and needed improvements at end of semester;
• Student attorneys will conduct factual investigations with family members and claimants to identify the appropriate probate procedure;
• Student attorneys will investigate the estate to determine the probate and nonprobate assets, claims against the estate, and rightful heirs;
• Student attorneys will prepare the appropriate court documents, within applicable deadlines, and submit for professor review; and
• Student attorneys will work with professor in conducting probate hearings, when proper.

6. Course Grading:

   JD students will follow the grading scale and grading policies outlined in Academic Standards 8.1-8.54, which may be found in the Student Handbook.

   LL.M. and M.Jur. students will follow the grading scale and grading policies for graduate students set forth in University Student Rule 10 at http://student-rules.tamu.edu (rule 10).

   Policies or grading rules should cover late work, grade assignment and weighting, and make-up guidelines, if any. Changing grading policies should occur only under extraordinary circumstances. Professors should advise students on the syllabus whether the final examination is an in-class closed or open book examination or a take-home examination.

7. Attendance

   JD students are required to adhere to the law school’s attendance policy as outlined in the Student Handbook.

   LL.M. and M.Jur. students are required to adhere to the attendance policies and makeup policies for graduate students set forth in University Student Rule 7 at http://student-rules.tamu.edu (rule 7).

   Participation is mandatory in all aspects of the Clinic (including classroom exercises, interviewing clients, drafting documents and execution of documents with clients).
If you know that you will miss a class, you must notify all professors by email prior to class.

**There is no final exam for this class.**

7. **Clinical Program Policies and Procedures Manual:**

A Texas A&M University School of Law Clinical Program Policies and Procedures Manual will be provided in order to help students understand what is being expected of them, and how things work in the clinics.

8. **Class Schedule and Assignments:**

Professors are providing this schedule as a general outline. Professors reserve the right to alter, amend or revise this schedule at their sole, absolute and unreviewable discretion.

<table>
<thead>
<tr>
<th>Date of Class</th>
<th>Topic</th>
<th>Instructor</th>
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</table>
| August 23, 2018     | Overview of Class  
Scope of Planning – what do we do and not do?  
30,000 Feet View: how does all this work together?  
Overview of Community and Separate Property | Parvin & Benson, Bell           |
| August 24, 2018     | Orientation:  
Professionalism and Ethics  
What is Probate? Overview of the Probate Process  
Introduction of Texas Probate Options  
Estate Investigation: communicating with family members and claimants | Bell                           |
| August 30, 2018     | Assignment of Cases  
Small Estate Affidavits  
Intestacy Distribution of Estate Assets  
Inventorying Estate Assets – probate and nonprobate | Bell                           |
| September 6, 2018   | In class discussion of assigned cases  
Small Estate Affidavits | Bell                           |
| September 13, 2018  | Conducting a Hearing in Probate Court  
Introduction to Documents  
Wills and Statutory Durable Powers of Attorney  
Medical Power of Attorney and Advance Directives | Parvin & Benson, Bell           |
| September 20, 2018  | Interview Skills  
Presentation Preparation  
Mock Interviews & Mock Signing | Parvin & Benson                |
| September 27, 2018  | Mock Interviews & Mock Signing  
Presentation Preparation  
Self-Evaluation | Parvin & Benson               |
<table>
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<tr>
<th>Date</th>
<th>Event</th>
<th>Instructor(s)</th>
</tr>
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<tbody>
<tr>
<td>October 4, 2018</td>
<td>Presentations and Critique Create Master Presentation Final review of document templates</td>
<td>Parvin &amp; Benson</td>
</tr>
<tr>
<td>October 11, 2018</td>
<td>Fall Break</td>
<td></td>
</tr>
<tr>
<td>October 18, 2018</td>
<td>Class Time: Center Visit 1 – Interviews Reflection, Self Evaluation, Questions Office Hours/ Probate Hours as scheduled by student</td>
<td>Bell, Parvin &amp; Benson</td>
</tr>
<tr>
<td>October 25, 2018</td>
<td>Class Time: Center Visit 2 – Interviews Reflection, Self Evaluation, Questions Office Hours/ Probate Hours as scheduled by student</td>
<td>Bell, Parvin &amp; Benson</td>
</tr>
<tr>
<td>November 1, 2018</td>
<td>Class Time: Center Visit 1 – Signings Reflection, Self Evaluation, Questions Office Hours/ Probate Hours as scheduled by student</td>
<td>Bell, Benson &amp; Parvin</td>
</tr>
<tr>
<td>November 8, 2018</td>
<td>Class Time: Center Visit 2 – Signings Reflection, Self Evaluation, Questions Office Hours/ Probate Hours as scheduled by student</td>
<td>Bell, Benson &amp; Parvin</td>
</tr>
<tr>
<td>November 15, 2018</td>
<td>Final class: Final reflection &amp; self evaluation and one-on-one student/professor evaluations</td>
<td>Bell, Benson, &amp; Parvin</td>
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</table>

*New this semester: As part of your office hours requirement, we are arranging small group outings to several senior centers. We will discuss this more in class, but please think about which days you might be available to visit a center between 9:00 and 1:30 pm.

9. Disability Policy:

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 Assistant Dean of Students, Rosalind Jeffers. Due to the law school’s policy of testing anonymity, students should not discuss their disabilities with professors. For assistance, students should consult with Dean Jeffers. For additional information visit [http://law.tamu.edu/current-students/student-affairs/exam-accommodation](http://law.tamu.edu/current-students/student-affairs/exam-accommodation).

10. Academic Integrity Statement and Policy:

Please remember that your actions are governed by the law school’s Code of Conduct. The Texas A&M University School of Law Aggie Honor Code is as follows: *An Aggie does not lie, cheat or steal, or tolerate those who do.* For additional information, please visit: [http://aggiehonor.tamu.edu and the law school Student Handbook](http://aggiehonor.tamu.edu). (And a note: you may not, in this class, elaborate, collaborate, or borrow.)
11. Statement on Credit Hours

ABA accreditation standards include a formula for calculating the amount of work that constitutes a credit hour. According to ABA Standard 310(b)(1), “a “credit hour” is an amount of work that reasonably approximates: (1) not less than one hour of classroom or direct faculty instruction and two hours of out-of-class student work per week for fifteen weeks, or the equivalent amount of work over a different amount of time.” At A&M University School of Law we have a twelve-week semester. As this is a 3 credit hour class, applying the ABA standard to the number of credits offered for this class, you are expected to spend, 3 actual hours per week (180 minutes) in class. Outside of the classroom - for a 3-credit course - you should be spending a minimum of 7 hours (420 minutes) of study time weekly in addition to class time. All 3-hour clinics require a minimum of 6 hours per week of office hours. Please keep in mind some of your clinic time will be “in the field”. For more information, see Credit Hour Policy.

12. Statement on Professionalism:

“What is Professionalism? ‘Professionalism is conduct consistent with the tenets of the legal professional as demonstrated by a lawyer’s civility, honesty, integrity, character, fairness, competence, ethical conduct, public service, and respect for the rule of law, the courts, clients, persons who work within the legal profession, witnesses and unrepresented parties.’” Commission on Professionalism, State Bar of New Mexico. Available at: http://www.nmbar.org/Attorneys/commissiononprofessionalism.html.

As our class will be interacting with actual clients, it is important that each student recognize his/her appearance, conduct and preparation reflects not only on the student-lawyer in question but also Texas A&M University Law School and the profession of law, in general. In interacting with clients, each participant will be expected to be present themselves (and their work) with the utmost professionalism, care and diligence.

13. Class Rules (from the Professors):

- No cell phone, social media, email or other distractions in class or dealing with clients. This is a “real” law firm environment and you will be expected to act accordingly.

- This class is all about gaining experience. No question is dumb or should be avoided. If you want to ask any question, please do.

- Finish what you start. As we are dealing with actual clients, we have an ethical duty to them to correctly complete the work we promise to perform.