

San José State University
College of Social Science/ Environmental Studies Department
Envs 291, Advanced Topics in Environmental Restoration
Section 1, Spring 2016

Course and Contact Information

Instructor:	Miranda Melen
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Office Hours:	Tuesday/Thursday 9:45am – 10:15am, or by appointment
Class Days/Time:	Tuesday/Thursday 12:00pm – 1:15pm, Saturday Field Trips 10am - 1pm
Classroom:	MacQuarrie Hall 234
Prerequisites:	Graduate standing, ENVS 187

Course Format

This course has classroom lectures, fieldwork, and online assignments, quizzes, and exams. This course requires the use of a computer with Internet connectivity daily. Course materials such as syllabus, assignment instructions, quizzes, and exams are on the [Canvas Learning Management System \(Canvas\)](http://sjsu.instructure.com) course website at <http://sjsu.instructure.com>. You are responsible for regularly checking Canvas for announcements and emails from your instructor.

Course Description

High-level restoration research and applications for advanced students. Emphasis on independent literature research and field data collection/analysis. Participation in ongoing restoration project and/or thesis research. Fieldwork and grasp of restoration principles required.

In the course Introduction to Environmental Restoration (Envs 187) you learned the basics of successful restoration projects, including restoration planning, implementation and monitoring, and the theoretical ecological principles that support restoration science. This advanced course puts into practice the knowledge and theory you have learned. As advanced restoration students, you will work on a current restoration project for a local client that requires restoration expertise. Project work will depend on the needs of the client. Students will apply appropriate field techniques, learn data analysis methods, and develop report-writing and professional presentation skills. At the graduate level, students will develop skills for project design and management, and learn to lead teams in the field.

Course Learning Outcomes (CLO):

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

- Understand and apply the ecological principles that are central to the field of restoration
- Understand restoration theory and apply restoration practices to a range of habitats and restoration projects
- Understand the stages of successful restoration projects and evaluate the quality of projects from the perspective of planning and design, implementation, monitoring and adaptive management
- Learn and implement methods and techniques for baseline assessment and monitoring project progress toward restoration goals
- Learn the basics of team leadership and managing a field study

Program Learning Outcomes:

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

- Write a logical analytical paper using good writing style and construction supported by appropriate research (PLO 1 - Qualitative Environmental Literacy)
- Determine, apply and interpret appropriate basic statistical or other quantitative analyses to environmental data (PLO 2 - Quantitative Environmental Literacy)
- Develop proficiency in the interdisciplinary sustainability principles that are the foundation of environmental studies; they will know the key environmental challenges facing the planet, know relevant interdisciplinary information about these challenges, and be able to develop/identify feasible solutions (PLO 3 - Content Environmental Literacy)
- Productively conduct group/team work to deliver professional quality presentations and reports (PLO 4 - Professional Skills: 4A)
- Demonstrate in-depth knowledge and skills in a science or technical field (PLO 5 - BS Competency)

Required Texts/Readings

Textbook:

None.

Other Readings:

Additional readings are on Canvas in the folder labeled Readings.

Library Liaison:

Peggy Cabrera is our liaison for Environmental Studies. Reach her at: peggy.cabrera@sjsu.edu

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

This is a lecture and field course that requires extensive writing, reading, and research outside of the classroom. **This is a four-unit course, which means you are expected to devote 12 hours of work per week to this class through participation in the classroom, field trips, homework, and independent study.** You must prepare for each class session by completing the appropriate readings or work before lecture. You will be working within the body of knowledge of the fields of ecology and restoration, and will conduct independent research as well as work in a group to present a case study of a local restoration project. A group presentation in the field and a final report is the culmination of this work. Finally, exams and quizzes will allow you to demonstrate your knowledge of the materials covered in class.

Assignments

The table below is a *tentative* list of assignments for the class. Assignments may be changed, added, or deleted as needed. This class is fast-paced, time consuming, and difficult in order to prepare you for your professional career. Your effort in this course and understanding of the material will be evaluated by weekly discussions, fieldwork participation, data collection, and a series of assignments.

Assignment	Point Value	Learning Objectives
<i>Class Work:</i>		
Lecture Discussions and Workdays	100	PLO 3, PLO 4
<i>Field Work:</i>		
Participation	100	PLO 5
Data Collection	100	PLO 2, PLO 5
<i>Group Assignments:</i>		
Bair Island Plant Field Guide	100	PLO 1, PLO 4
Bair Island Plant Survey Report	100	PLO 1, PLO 2, PLO 4
Performance Review	10	
Group Presentation	100	PLO 4, PLO 5
Estimated Total	510 points	

[University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states, “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Grading Policy

Individual grades are assigned based on the student’s ability to demonstrate their knowledge of the material, provide evidence to support their work, and follow assignment instructions. Group grades are assigned based on the overall assessment of the group work and the peer-reviews. Final grades take into account assignment and exam scores, and class participation.

Grades are determined according to this scale:

98-100% = A+	88-89% = B+	78-79% = C+	60-69% = D
92-97% = A	82-87% = B	72-77% = C	59 and below = F
90-91% = A-	80-81% = B-	70-71% = C-	

Your grade will be accessible via Canvas or in office hours.

Grading criteria

All writing assignments and exams will be graded according to the following standards for assessing the quality of the content and the clarity of expressing concepts.

Grade	Criteria
A	Extremely effective organization of paragraphs and paper; interesting, varied sentences; good grammar (usage, punctuation); no spelling mistakes; excellent response with superior supporting evidence; logical analysis, reasoning, and explanation; clear mastery of concept; excellent citation form and use.
A-, B+	Very effective organization of paragraphs and paper; interesting, good sentence structure and variation; good grammar (usage, punctuation, etc.); few spelling mistakes; does not read like a first draft; good, solid response that uses strong supporting evidence; very good reasoning and explanations; great citation form and use.
B	Reasonably effective organization of paragraphs and paper; serviceable prose; numerous errors of grammar or spelling; reads like a first draft; solid response that meets minimum required by assignment; reasoning and explanations are adequate; okay citation form and use.
C	Structurally disorganized; paragraphs lack topic sentences or are not developed effectively; awkward sentence structure; poor grammar; poor spelling; response is accurate but cursory, and does not meet the minimum required for completeness; some inaccuracies or reasoning flaws; response is too general, lacks specific evidence; all sources cited but form is incorrect.
D	Structurally disorganized; paragraphs lack topic sentences or are not developed effectively; awkward sentence structure; poor grammar; poor spelling; response does not effectively address the question; response fails to support assertions evidence; major flaws in reasoning; explanations are unclear; displays inadequate understanding of content; lack of citation.
F	Response is missing or not submitted, or does not address the question.

All presentations, discussions, and fieldwork will be graded according to the following standards for assessing the level of participation and ability to conduct good science.

Grade	Criteria
A	<p>Presentation is of appropriate length; content is of excellent quality and goes beyond the basics; facts are accurate and well explained; flow of presentation is logical and well planned with clear practice and rehearsal between group members; pictures and text are well displayed and easy to read; presenter has a good speaking voice (volume and speed) and makes frequent eye contact with audience; does not use note cards; presenter is dressed in appropriate attire.</p> <p>Contributes freely to discussion; speaks clearly; ideas are presented in a thoughtful and logical manner; uses strong evidence to support reasoning; clear mastery of content and material being discussed; scientific language is used when speaking; asks questions and proposes reasonable solutions.</p> <p>Fieldwork is technically accurate; attire is appropriate for weather and terrain conditions; demonstrates enthusiasm for field experience and working collaboratively; asks questions and is helpful to others; clear mastery of scientific method and collection techniques.</p>
A-, B+	<p>Presentation is of appropriate length and good content; facts are accurate and very well explained; flow of presentation is logical and well planned with clear practice and rehearsal between group members; pictures and text are well displayed and easy to read; presenter has a good speaking voice (volume and speed) and makes eye contact with audience; does not use note cards; presenter is dressed in appropriate attire.</p> <p>Contributes often to discussion; ideas are presented in a thoughtful and logical manner; uses evidence to support reasoning; scientific language is used when speaking; asks questions and proposes reasonable solutions.</p> <p>Fieldwork is technically accurate; attire is appropriate for weather and terrain conditions; displays real</p>

	interest in field experience and working collaboratively; asks questions and is helpful to others.
B	<p>Presentation is of appropriate length and content; facts are accurate; flow of presentation is logical; pictures and text are easy to read; presenter has a good speaking voice (volume and speed) and makes eye contact with audience; presenter is dressed in appropriate attire.</p> <p>Contributes to discussion with good ideas; supports reasoning with evidence; some scientific vocabulary is used; asks some questions.</p> <p>Fieldwork is technically accurate; attire is appropriate for weather and terrain conditions; shows interest in field experience and working collaboratively; asks questions.</p>
C	<p>Presentation is of minimal length; content is adequate; facts are somewhat accurate; presentation is organized; pictures and text are readable; presenter uses notes and is challenging to hear; presenter is dressed in appropriate attire.</p> <p>Needs to be prompted to contribute to discussion; supports reasoning with evidence; some scientific vocabulary is used.</p> <p>Approaches field experience with adequate interest; some collaboration; depends on some direction and instruction from others; does not take initiative in a group setting; demonstrates an adequate understanding of the field methods.</p>
D	<p>Presentation is too short; content is lacking basic information; facts are not all accurate; presentation requires organization; pictures and text are challenging to read; presenter uses notes; presenter is not dressed in appropriate attire.</p> <p>Needs to be prompted to contribute to discussion; does not supply evidence or more than a basic answer.</p> <p>Demonstrates little enthusiasm as if “just going through the motions”; little interest in collaboration; dependent on instruction; does not understand the field techniques or methods.</p>
F	<p>Clear lack of group participation in presentation.</p> <p>Missing or lack of any participation in discussions.</p> <p>Missing or unable to complete field methods.</p>

Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), and completion of Core General Education are prerequisite to all SJSU Studies courses. Completion of 100W, ENVS 001, and GE B2 are required for this course. A minimum aggregate GPA of 2.0 in GE Areas R, S, & V shall be required of all students.

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See [University Policy F13-1](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

Classroom Protocol

Participation:

Students are expected to arrive on time and be seated for the start of the class period. If a student is sick or knows they will be late to class or need to leave early, email the instructor prior to class as a courtesy.

Participation is an important element to learning. Questions and comments about the lecture are welcome during the presentation. Please use office hours for questions about grades or personal concerns.

Inappropriate behavior or disrespect towards other students and the instructor will not be tolerated and be reported to the University. Expulsion from the class can occur after the first warning.

Technology Use:

Laptops are encouraged for class discussions, group work, and note taking. Cell phones and laptops may also be used for data collection purposes in the field. Cell phones and laptops are not allowed for personal use.

Late Assignments:

All assignments are due on the day that they are listed. Late assignments are accepted up to one week after the assignment was initially due. The first late assignment will be penalized 15% from the total score earned. The second assignment will be penalized 30%, and the third late assignment will be penalized 60%. If 4 or more assignments are turned in late you will not pass this class.

Fieldwork:

Fieldwork is mandatory for this class and is on Saturdays from 10am to 1pm (travel time not included). Carpooling is critical for restricted parking at the field site.

Field trips pose potential risks, including but not limited to:

- Driving to and from field site
- Uneven terrain, unpaved surfaces
- Extreme weather (wind, rain, temperature fluctuations)
- Insects, animals, plants

Proper clothing and closed-toe shoes for walking and hiking must be worn for all fieldwork. It is also important to stay hydrated.

Class Project:

The purpose of Advanced Restoration is to provide students with an opportunity to work as a consulting team to research a local restoration project and monitor success criteria to assess progress of restoration methods. The course has a heavy field component and enables students to conduct research, analyze data, and present findings.

The project is intended to be a multi-year collaboration between San Jose State University and the U.S. Fish and Wildlife Service, Don Edwards San Francisco Bay National Wildlife Refuge in order to expose senior-level and graduate-level environmental studies students to field research methods and active restoration. The project is active February through April to allow students to become familiar with the field site and marsh habitat. Field visits will be subject to weather for levee conditions, but will be scheduled for Saturdays in February, March, and April of 2016.

Fieldwork Dates:

Saturday, February 13, 2016
Saturday, February 20, 2016
Saturday, February 27, 2016
Saturday, March 5, 2016
Saturday, March 12, 2016

Saturday, March 19, 2016
Saturday, April 9, 2016
Saturday, April 16, 2016
Saturday, April 23, 2016
Saturday, April 30, 2016

Project Description:

Inner Bair Island, Area D (Figure 1), recently underwent construction for the building of a levee to support the new sewer line and for tidal management and continued restoration of the land. The San Francisco Bay Bird Observatory (SFBBO) was contracted to seed on the sides and top of the levee creating high marsh, transition, and upland vegetation zones. On December 10, 2015 Area D was breached allowing bay water to reach Inner Bair Island and begin the natural recruitment of marsh habitat.

Vegetation seeded by SFBBO will be monitored in May/June of 2016 to determine the success of the seeding methods and the selected plant mixes. The SJSU Advanced Environmental Restoration class will provide preliminary data to assist SFBBO in better monitoring practices by testing the intended survey methods (percent cover of vegetation using 1x1 meter quadrats) in the beginning of 2016.

In discussions with SFBBO and Refuge Staff, it was proposed that SJSU monitor a segment of levee for vegetative cover and weeding. The results of this preliminary plant survey will provide the Refuge and SFBBO valuable information for efficient implementation of spring monitoring methods. SJSU was also asked to produce a plant guide for species (native and non-native) that are present at Area D of Bair Island. This document would be available for Refuge and SFBBO use for internal and public purposes. The plant guide may be useful for future plant surveys as the vegetative communities shift over the next years. It is hoped that SJSU will return to Area D in spring 2017 to conduct follow up surveys and update the guide with newly emerging species in the plant communities.



Figure 1. Inner Bair Island, Area D (white polygon). A segment of the northern slope of levee (red line) would be selected for SJSU monitoring.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. To learn important campus information, view [University Policy S90-5](http://www.sjsu.edu/senate/docs/S90-5.pdf) at <http://www.sjsu.edu/senate/docs/S90-5.pdf> and SJSU current semester's Policies and Procedures, at <http://info.sjsu.edu/static/catalog/policies.html>. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not address the issue, it is recommended that the student contact the Department Chair as the next step.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/) at http://www.sjsu.edu/provost/services/academic_calendars/. The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

Consent for Recording of Class and Public Sharing of Instructor Material

[University Policy S12-7](http://www.sjsu.edu/senate/docs/S12-7.pdf), <http://www.sjsu.edu/senate/docs/S12-7.pdf>, requires students to obtain instructor's permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
 - It is suggested that the greensheet include the instructor's process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
 - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the [Accessible Education Center](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

Student Technology Resources

Computer labs for student use are available in the [Academic Success Center](http://www.sjsu.edu/at/asc/) at <http://www.sjsu.edu/at/asc/> located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

SJSU Peer Connections

Peer Connections' free tutoring and mentoring is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. Peer Connections tutors are trained to provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small group and individual tutoring are available. Peer Connections mentors are trained to provide support and resources in navigating the college experience. This support includes assistance in learning strategies and techniques on how to be a successful student. Peer Connections has a learning commons, desktop computers, and success workshops on a wide variety of topics. For more information on services, hours, locations, or a list of current workshops, please visit [Peer Connections website](http://peerconnections.sjsu.edu) at <http://peerconnections.sjsu.edu> for more information.

SJSU Writing Center

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the [Writing Center website](http://www.sjsu.edu/writingcenter) at <http://www.sjsu.edu/writingcenter>. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook.

SJSU Counseling and Psychological Services

The SJSU Counseling and Psychological Services is located on the corner of 7th Street and San Carlos in the new Student Wellness Center, Room 300B. Professional psychologists, social workers, and counselors are available to provide confidential consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling and Psychological Services website at <http://www.sjsu.edu/counseling>.