

Introduction to Remote Sensing – Course Syllabus

To access the links in this syllabus, view the online version on your computer or mobile device.

Instructor Information

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- Advising Hours: Tue, 9:00-10:00 & 13:45-16:00; Wed, 13:15-16:00; Thu, 9:00-10:45 & 13:45-16:00; by appointment. To ensure my time is all yours when we meet, either in person in Breland Hall 139 or via [Adobe Connect](#) in Canvas, please [sign up for an advising session](#)).
- Response time: 1 business day to email; 3 business days to phone calls

Adrian Sanchez (TA for Lab Section M01)

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- Advising Hours: Tue & Fri, 11:30-13:00; by appointment; in person in Breland Hall 140 or via [Adobe Connect](#) in Canvas

Scott Miller (TA for Lab Section M02)

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- Advising Hours: Mon, 15:00-16:30; Thu, 8:30-10:00; by appointment; in person in Breland Hall 144 or via [Adobe Connect](#) in Canvas

Course Introduction

Course Overview

- Course prefix and number: GEOG 373/573
- Course title: Introduction to Remote Sensing
- Department: [NMSU Department of Geography](#)
- Semester: Fall 2019
- Credit hours: 4
- Access to course materials: [online via the Canvas Learning Management System](#)
- Meeting days, times, and locations:
 - **Lecture:** Tue & Thu, 12:00-13:15; NMSU Main Campus, Breland Hall 185
 - **Lab Section M01:** Wed, 13:30-16:00; NMSU Main Campus, Breland Hall 192
 - **Lab Section M02:** Thu, 9:00-11:30; NMSU Main Campus, Breland Hall 192
 - For information on open lab hours, view our [Breland 192 Lab Schedule](#).

Course Description

This course introduces you to fundamental concepts, methods, and applications of remote sensing—the art, science, and technology of obtaining information about the environment through the recording, analysis, and interpretation of data acquired through non-contact sensors. The course is divided into four major parts: an introduction to the general principles of remote sensing and image analysis and interpretation; an examination of various types of aerial and satellite sensor systems and data; an exploration of remote sensing in four types of environments (biosphere, hydrosphere, lithosphere, urban landscapes); and a discussion of unoccupied aerial systems and photogrammetry. The course includes both a lecture and a lab component: the former emphasizes theory; the latter concentrates on practice. The course builds on lower-division courses in physical geography, human geography, map use, cartography, aerial photography, and related topics. The course serves as a foundation for upper-division courses such as Advanced Remote Sensing (GEOG 473/582).

Course Learning Outcomes

Upon completion of this course, you will be able to:

1. explain basic remote sensing concepts and methods;
2. analyze and interpret the spectral signatures of different landscape elements; and
3. produce information about people and the environment from remotely sensed data using basic image processing techniques.

Course Delivery Method

This course will be completely face-to-face, with optional online meetings. You may complete assignments in any order, but we strongly recommend that you complete them in the carefully designed order outlined in the [Course Schedule](#). You may submit assignments ahead of their due dates; [late work](#) will not be accepted except in unusual circumstances.

Course Organization

This is a fast-paced course with a steep learning curve for many students. The course introduces a variety of interrelated concepts and methods relevant to remote sensing. It also introduces you to [ENVI image analysis software](#). We will deal with new topics every week and each topic is treated more or less separately in the readings, lectures, and labs. However, the power of remote sensing can only be fully appreciated and exploited through synthesis and integration of the many topics discussed throughout the semester. That is, one cannot solve a real-world problem using remote sensing by understanding electromagnetic radiation principles only; one also needs to be able to choose the best imagery for the problem at hand, apply appropriate methods, correctly analyze and interpret the results, and so forth. It is thus crucial that you always keep up with all course materials.

Course Schedule

Week	Date	Topic	Due: At Home In Class In Lab Textbook Chapter (Ch), Textbook Pages (*)
PART I: INTRODUCTION TO REMOTE SENSING			
1	08/22	Welcome & Getting Started	✓ Acquire Textbook
2	08/27	Introduction to Remote Sensing (1)	✓ Study Syllabus ✓ RAT #1 (Syllabus & Textbook)
	08/29	Introduction to Remote Sensing (1)	✓ Reading #1: Ch. 1, 1-31* ✓ MCP #1 (Topic 1) ✓ RAT #2 (Topic 1)
	Lab	No Lab	✓ No Lab Due
3	09/03	Electromagnetic Radiation Principles (2)	✓ Reading #2: Ch. 2, 37-60* ✓ MCP #2 (Topic 2) ✓ RAT #3 (Topic 2)
	09/05	Electromagnetic Radiation Principles (2)	✓ Rework Topics 1-2 ✓ RAT #4 (Topics 1-2)
	Lab	Lab #1: Getting Started with ENVI	✓ No Lab Due
4	09/10	Elements of Visual Image Analysis and Interpretation (3)	✓ Reading #3: Ch. 5, 127-147* ✓ MCP #3 (Topic 3) ✓ RAT #5 (Topics 3)
	09/12	Elements of Visual Image Analysis and Interpretation: Focus on Color (3)	✓ Rework Topics 1-3 ✓ RAT #6 (Topics 1-3)
	Lab	Lab #2: Basic Image Processing in ENVI	✓ Lab #1
PART II: REMOTE SENSING SYSTEMS			
5	09/17	Optical Remote Sensing & Field Spectroscopy (4)	✓ Reading #4: Ch. 7 & 15, 193-247* & 569-578* ✓ MCP #4 (Topic 4) ✓ RAT #7 (Topics 4)
	09/19	Optical Remote Sensing & Field Spectroscopy (4)	✓ Rework Topics 1-4 ✓ RAT #8 (Topics 1-4)
	Lab	Lab #3: Visual Image Analysis and Interpretation	✓ Lab #2
6	09/24	FieldSpec Demo (4)	✓ RAT #9 (FieldSpec Demo)
	09/26	Exam 1 (Topics 1-4) Peer Evaluation #1	✓ Prepare for Exam #1
	Lab	Lab #4: Optical Remote Sensing	✓ Lab #3
7	10/01	Thermal Remote Sensing (5)	✓ Reading #6: Ch. 8, 249-288* ✓ MCP #5 (Topic 5)

			✓ RAT #10 (Topic 5)
	10/03	Thermal Remote Sensing (5)	✓ Rework Topics 1-5 ✓ RAT #11 (Topics 1-5)
	Lab	Lab #5: Optical Remote Sensing & Field Spectroscopy	✓ Lab #4
8	10/08	Active Remote Sensing (6)	✓ Reading #7: Ch. 9 & 10, 291-332* & 335-352* ✓ MCP #6 (Topic 6) ✓ RAT #12 (Topic 6)
	10/10	Active Remote Sensing (6)	✓ Rework Topics 1-6 ✓ RAT #13 (Topics 1-6)
	Lab	Lab #6: Thermal Remote Sensing	✓ Lab #5
PART III: REMOTE SENSING OF THE ENVIRONMENT			
9	10/15	RS of the Biosphere (7)	✓ Reading #8: Ch. 11, 355-402* ✓ MCP #7 (Topic 7) ✓ RAT #14 (Topic 7)
	10/17	RS of the Biosphere (7)	✓ Rework Topics 1-7 ✓ RAT #15 (Topics 1-7)
	Lab	Lab #7: Active Remote Sensing	✓ Lab #6
10	10/22	RS of the Hydrosphere (8)	✓ Reading #9: Ch. 12, 409-439* ✓ MCP #8 (Topic 8) ✓ RAT #16 (Topic 8)
	10/24	RS of the Hydrosphere (8)	✓ Rework Topics 1-8 ✓ RAT #17 (Topics 1-8)
	Lab	Lab #8: RS of the Biosphere	✓ Lab #7
11	10/29	RS of the Lithosphere (9)	✓ Reading #10: Ch. 14, 507-566* ✓ MCP #9 (Topic 9) ✓ RAT #18 (Topics 9)
	10/31	Exam 2 (Topics 1-8) Peer Evaluation #2	✓ Prepare for Exam #2
	Lab	Lab #9: RS of the Hydrosphere	✓ Lab #8
12	11/05	RS of the Lithosphere (9)	✓ Rework Topics 1-9 ✓ RAT #19 (Topics 1-9)
	11/07	RS of Urban Environments (10)	✓ Reading #11: Ch. 13, 443-502* ✓ MCP #10 (Topic 10) ✓ RAT #20 (Topic 10)
	Lab	Lab #10: RS of the Lithosphere	✓ Lab #9
13	11/12	RS of Urban Environments (10)	✓ Rework Topics 1-10 ✓ RAT #21 (Topics 1-10)

PART IV: AERIAL REMOTE SENSING & PHOTOGRAMMETRY			
	11/14	Aerial Remote Sensing (11)	<ul style="list-style-type: none"> ✓ Reading #12: Ch. 3 & 4, 61-88* & 91-125* ✓ MCP #11 (Topic 11) ✓ RAT #22 (Topic 11)
	Lab	Lab #11: RS of Urban Landscapes	✓ Lab #10
14	11/19	Photogrammetry (12)	<ul style="list-style-type: none"> ✓ Reading #13: Ch. 6, 149-192* ✓ MCP #12 (Topic 12) ✓ RAT #23 (Topic 12)
	11/21	Photogrammetry (12)	<ul style="list-style-type: none"> ✓ Rework Topics 1-12 ✓ RAT #24 (Topics 1-12)
	Lab	Lab #12: RS using UAV Imagery	✓ Lab #11
15	---	Thanksgiving Break (11/25-11/29): No Lectures, No Labs	
16	12/03	UAS Demo (12)	✓ RAT #25 (UAS Demo)
	12/05	Grad Presentations (1-12)	✓ RAT #26 (Grad Presentations)
	Lab	No Lab	✓ Lab #12
17	12/12	Final Exam (Topics 1-12): 10:30 - 12:30 Peer Evaluation #3	✓ Prepare for Exam #3

Required Courses, Skills, Hard- and Software, Browsers, and Textbook

Prerequisites and Co-requisites

There are no prerequisites or co-requisites for this course.

Skills

Taking this course requires a number of skills. At a minimum, you will need to meet certain technology responsibilities to complete the work for this course. If you have questions about technical requirements for the course, please contact us immediately. To begin in this course, you must be able to:

- obtain access to an internet connection, preferably broadband, and a working computer for the duration of this course (note: you may do so in our computer teaching lab in Breland Hall 192);
- proficiently use Microsoft Office applications (see the [Microsoft Office Training Center](#));
- conduct searches and find resources on the Internet (see the [NMSU Library](#), [Research Help for Students](#), and [Internet Tutorials](#));
- send and receive NMSU emails and email attachments in and out of class (see [NMSU email](#));
- use Canvas tools (see the [Canvas Student Guide](#));
- install software on your computer (note: this only applies if you are unable to complete course assignments in our computer teaching lab in Breland Hall 192);

- maintain backups of all your course work (see [5 Ways to Back Up Your Data](#));
- follow technical instructions to accomplish new tasks; and
- demonstrate a willingness and ability to learn new skills.

Computer Hardware & Software

To participate fully in this course, you will need access to the following technologies (note: you will have access to all of these technologies in our computer teaching lab in Breland Hall 192; if you have to complete course assignments remotely, then you will need to gain alternative access to these technologies):

- Windows or Macintosh desktop or laptop computer with internet access as well as microphone and speakers (built-in or external headset);
- [Windows Virtual Machine](#) (to run ENVI software) — Mac users only
- [Canvas Learning Management System](#) (Note that Canvas is not fully supported in mobile devices; i.e., while there is a free Canvas mobile app, its functionality is currently limited. To ensure full Canvas functionality, access Canvas on your computer.)
- [Adobe Connect](#) (to meet with your instructors or peers online, if needed)
- [Microsoft Office](#) (for reading and creating Microsoft Word, PowerPoint, and Excel files)
- [Adobe Acrobat Reader](#) (for reading PDF files)
- [ENVI 5.5 + IDL 8.7](#) (for remote sensing image analysis; we will provide you with instructions for installing a free and fully functional version of ENVI on your personal computers during the first lab meeting)

Web Browsers

Use any of the following browsers to access Canvas. Please remember to update the web browser you are using on a regular basis.

- [Chrome](#) (recommended)
- [Firefox](#)
- [Safari](#)

Textbook

You need to acquire a textbook for this course and have three options concerning the book itself: you purchase 1) the required text (**Jensen, J. R. 2006. *Remote Sensing of the Environment: An Earth Resource Perspective*. 2/E ed. Upper Saddle River, NJ: Prentice-Hall.**), 2) an earlier edition of the text, or 3) any intro remote sensing book of your own choice. If you choose a book other than the required book, you are responsible for correlating the content of your chosen book with the required reading assignments. Note that you may be able to check out the book from a library and that you may be able to purchase the book for discounted prices at used bookstores, thrift stores, or online at amazon.com, barnesandnoble.com, or textbookland.com. Also, note that while the book is a bit dated, it still represents the best organized intro remote sensing book; the remote sensing fundamentals have not changed significantly since the book was last published and we will present updated materials and additional readings as needed throughout the semester.

Communication

Canvas Course Management System Website

Much of this course will be available online via [Canvas](#), where you will have access to all course materials (e.g., lectures and labs); your grades; as well as communication tools such as Announcements, Messages, Discussions, Collaborations, and Adobe Connect. To access these resources, simply [log in to your Canvas account](#) and click the link for this course. Canvas is critical element of this course and you are required to review its contents regularly. If you encounter problems related to Canvas, please contact us immediately.

Email and Canvas Messages

You can reach us at the NMSU email addresses provided under [Instructor Information](#) above or via Canvas Messages. Note that your NMSU email account is the official means of communicating with the university. Information critical to your success at NMSU is delivered to you via this account, and you are expected to follow rules and policies provided to you via this communication method. Any email from you to us should be sent either through your official NMSU email account or through Canvas Messages. Please be advised that due to privacy and security concerns, we are unable to respond to emails from or about students that do not originate from an official NMSU email address. Unless we are away from the office with limited access to email, we will respond to your messages within one business day. Similarly, we expect you to respond to our emails in a timely manner. So, please access your NMSU email and Canvas accounts frequently.

Announcements

We will use the Announcements tool in Canvas to send time sensitive and regular information to the entire class. To ensure you receive this information the moment it is posted, set your notification preferences in Canvas to “right away”. To do so, in Canvas, go to Profile > Notifications > Announcements and change the setting “Notify me right away.”

Advising Hours

Our advising hours are provided under [Instructor Information](#) above. During these hours, we will be available in person in our offices or online in our Adobe Connect rooms as noted under [Instructor Information](#) above. To meet with Dr. Buenemann, [sign up for an advising session](#) with her prior to the meeting. If none of her ten weekly advising hours work for you, please [email her](#) to set up an appointment during an alternative time. To meet with the TAs, simply drop by their physical or virtual offices during their office hours or a pre-arranged time.

Phone Calls

Phone calls are not our preferred mode of communication and our response times to voice messages may be up to three business days. Our phone numbers are provided under [Instructor Information](#) above.

Expectations

What You Can Expect From Us

We will be available to you during our advising hours and scheduled appointments as well as via NMSU email and Canvas messages. Don't be shy and contact us as soon as ambiguities, problems, or worries arise. We will take all of your questions, comments, and concerns seriously and respond to you as promptly and as specifically as possible. We will do our very best to provide you with a high-quality learning experience, grade assignments fairly, and offer feedback on your work within one week of turning it in. We reserve the right to make changes to course materials, assignments, and policies to better accommodate your learning needs. Any changes made will be published as soon as possible via Canvas Announcements and will not adversely affect your workload or grade. We encourage each of you to be both teacher and learner in this course. To that end, we like to encourage interactions among participants and do not wish to be "sages on the stage."

What We Expect From Ourselves and You

Enrollment in this course and acceptance of this syllabus is your contract constituting acceptance of all NMSU policies and codes as well as all specific guidelines outlined in this syllabus. We will do our very best to facilitate learning (i.e., to help you achieve the [Course Learning Outcomes](#) stated above)—we will always prepare and present class materials to the best of our abilities; give you tasks that will help you better understand key concepts and methods; and encourage cooperative, student-centered learning. You are responsible for learning itself. In addition, we expect all participants in the course to follow the netiquette conventions below.

Grading Policy

Grade Components and Weights

Your final course grade will be based on the points you earn on the following assignments.

Grade Components Table

Assignments	Undergraduate Students (GEOG 373)			Graduate Students (GEOG 573)		
	Units	Points	Weight	Units	Points	Weight
Exams	3	320	32.0%	3	320	25.6%
Lab Exercises	12	360	36.0%	12	360	28.8%
MCPs	12	60	6.0%	12	60	4.8%
RATs	26	260	26.0%	26	260	20.8%
Term Project	0	0	0%	1	250	20.0%
Total	36	1,000	100.0%	36	1,250	100.0%

Grading Scale

Your final course letter grade will be based on the following fractional scale.

Grading Scale Table

Grade	Percentage	GPA
A+	> 100%	4.0
A	95% to 100%	4.0
A-	90% to 94%	3.7
B+	87% to 89%	3.3
B	84% to 86%	3.0
B-	80% to 83%	2.7
C+	77% to 79%	2.3
C	74% to 76%	2.0
C-	70% to 73%	2.0
D+	67% to 69%	1.0
D	64% to 66%	1.0
D-	60% to 63%	1.0
F	< 60%	0.0

Assignments and Criteria

You will complete four types of assignments for this course: MCPs (Muddy and Clear Points), RATs (Readiness Assessment Tests), lab exercises, and exams. In addition, if you are a graduate student, you will complete a term project for this course. All assignments are intended a) to help you acquire the **learning outcomes (LOs; i.e., descriptions of things you should be able to do)** of individual units, modules, and the course as a whole and b) to help us assess the extent to which this actually happened. Recall from the [Course Learning Outcomes](#) section above that you should be able to do three major things upon completion of this course: explain basic remote sensing concepts and methods; analyze and interpret spectral signatures; and produce information about people and the environment from remotely sensed data. As you can see, being able to do these things requires both conceptual and practical knowledge and skills in remote sensing.

Throughout the course, we will provide you with **readings, lecture slides and videos, and other miscellaneous materials** to help you learn the more conceptual aspects of the course. These materials promote a rather passive mode of learning, however, and do not provide you or us with feedback about how much you have actually learned. This is in part where the MCPs and RATs come in. **MCPs** are notes written at home that summarize aspects of the readings that were unclear and aspects of the readings that made perfect sense to you. They are credit opportunities for you to reflect on your understanding of the class materials. They should serve as an incentive for you to prepare the readings for class. At the same time, they will allow us, your instructors, to tailor each class meeting specifically to your needs, with emphasis on muddy points and no or only short discussion of the clear points. The **RATs** are open or closed book in-class assignments that challenge you to actively engage with the course material through collaboration with your team members. The RATs thus provide you with opportunities to learn course material interactively and cooperatively through critical discussions with your

peers. The RATs give you and us an indication as to what does or does not make sense to you and allow us all to take corrective actions as needed.

The **lab exercises** are designed to help you learn the more practical aspects of the course. All labs provide background materials that emphasize the close linkage between the conceptual and practical aspects of the course as well as step by step instructions for remote sensing image analysis in ENVI software. The labs thus allow you to develop the skills necessary for producing information about people and the environment from remotely sensed data, which is the third and ultimate LO of the class. You may complete lab exercises at home or in our computer teaching lab in Breland Hall 192, where TAs will be available throughout the semester to help you troubleshoot lab problems as needed. Finally, the in-class, closed-book, and proctored **exams** will be incentives for you to (re)learn class materials and means for us to assess your learning in this course.

If you have any questions about the purpose of instructional materials and their relationships to each other, please let us know. Note that we will evaluate all assignments within one week of their respective due dates. Each assignment category is described further below. For even more information, see the specific assignments in [Canvas](#).

Muddy & Clear Points (MCPs). There will be twelve MCPs, each accounting for 5 points of your final course grade or for a combined total of 60 points (6% and 4.8% of the final course grade for undergrad and grad students, respectively). MCPs will be individual efforts and graded at three levels based on their quality (i.e., MCPs that address at least two solid muddy and two solid clear points will earn 5 points, missing MCPs will earn 0 points, and partial MCPs will earn partial credit; points will be allocated based on completeness and effort rather than correctness). All MCPs are required to earn the maximum number of points in this course (i.e., 1,000 points for undergrads and 1,250 points for grads). MCPs may be handwritten or typed and are due on paper at the beginning of class on the days indicated in the [Course Schedule](#) above.

Readiness Assessment Tests (RATs). There will be twenty-six RATs, each accounting for 10 points of your final course grade or for a combined total of 260 points (26% and 20.8% of the final course grade for undergrad and grad students, respectively). RATs will be team efforts and graded based on the quality with which you completed all RAT problems (i.e., each problem is worth a certain number of points and your team earns no, partial, or full credit depending on the completeness and correctness of the solution). All members of a given team will initially receive the same grade for a given RAT (i.e., the grade earned by the team). However, RAT grades will be adjusted three times during the semester using peer evaluations, which assess each individual team member's contributions to the success of the team. For example, if a team earned 18 points on a RAT and team members A, B, and C earned peer evaluation scores of 0.8, 0.9, and 1.0, respectively, then the adjusted RAT grades for team members A, B, and C will be 14.4, 16.2, and 18 points, respectively (i.e., 80%, 90%, and 100% of team grade, respectively). It is thus in your own best interest to always contribute as much as possible to the RATs. All RATs are required to earn the maximum number of points in this course (i.e., 1,000 points for undergrads and 1,250 points for grads). RATs will be completed during our class meetings, may be open or closed book, and typically cover materials already discussed in class (materials to be reworked) and materials to be discussed in class on the day of the RAT (materials to be

prepared for class, i.e., readings noted in the [Course Schedule](#) above).

Lab Exercises: There will be twelve lab exercises, each accounting for 30 points of your final course grade or for a combined total of 360 points (36% and 28.8% of the final course grade for undergrad and grad students, respectively). Labs will be graded based on the quality with which you completed all lab tasks (i.e., each task is worth a certain number of points and you earn no, partial, or full credit depending on the completeness and correctness of your work). We invite you to collaborate with others to solve lab problems, but your lab submissions must clearly be your own work. All labs are required to earn the maximum number of points in this course (i.e., 1,000 points for undergrads and 1,250 points for grads). Labs will be completed during the official lab sections and/or during other times outside of class. As indicated in the [Course Schedule](#) above, labs are due one week after they were assigned, by the beginning of the next lab section.

Exams: There will be three exams, all of which are required to earn the maximum number of points in this course (i.e., 1,000 points for undergrads and 1,250 points for grads). Exams 1, 2, and 3 will account for 100, 100, and 120 points, respectively, and thus for a combined total of 320 points (32% and 25.6 % of the final course grade for undergrad and grad students, respectively). Each exam will be cumulative, assessing your learning since the beginning of the semester. All exams will be individual efforts, closed book, and proctored. Exams 1 and 2 will each be up to 75 minutes long; Exam 3, the Final Exam, will be up to 120 minutes long. Exams will be graded based on the quality with which you completed all exam tasks (i.e., each task is worth a certain number of points and you earn no, partial, or full credit depending on the completeness and correctness of your work). Exams will be taken in class on the days indicated in the [Course Schedule](#) above. **Make-up exams:** If you have a legitimate excuse for a University-sanctioned activity or work-related event that will cause you to miss an exam, contact us prior to the official exam time so that we can schedule a make-up exam, and provide us with written documentation prior to or on the day of your make-up exam. If you have to miss an exam due to illness, contact us as soon as possible so that we can schedule a make-up exam, and provide us with written documentation as soon as possible and before taking the make-up exam. If you fail to follow these guidelines or if you miss an exam for other reasons, you will receive 0 points for the exam.

Term Project (Grad Students Only!). Grad students will be required to submit a term project as part of their course work (20% of final grade). Detailed guidelines for the term project will be provided in a separate document.

Further details regarding all of the above will be provided to you in class, lab, and/or on the course website.

Curving of Grades

Individual assignments and tests will not be curved (↑ or ↓). We *may* make adjustments of the final letter grade after an assessment of the class curve at the end of the term. We consider class participation and improvement over the term as justification for discounting a grade that is uncharacteristically lower than others.

Grades on Canvas

You may use Canvas to keep track of grades that you earned for specific activities (e.g., an exam or a lab) as an individual or as part of a team. However, do not use summary grades in Canvas to assess your overall class performance as these grades are inaccurate. As described below and discussed online, your team grades will be adjusted upward or downward based on peer evaluations, which Canvas does not take into account. To help you keep track of your actual overall grade, use [this Excel spreadsheet](#).

Incomplete Grades

An I (Incomplete) grade will be assigned only if you are unable to complete the course due to circumstances beyond your control (e.g., documented illness, documented death, or crisis in your immediate family) that develop after the last day to withdraw from the course. An I grade will not be used to avoid assigning of D, F, U, or RR grades for marginal or failing work.

Late Work

Work not received by the deadline will not be graded and given 0 points, except in unusual circumstances. We have three major reasons for not accepting late work. First, it is difficult to keep up with students who turn things in late and determine just how much to dock an assignment. Our time is better spent on improving course materials and providing better feedback. Second, there will be no confusion concerning when assignments are due. Third, imposing hard deadlines will prepare you for the real world. To ensure you meet all deadlines, allow extra time for glitches in computer hardware and software, internet connectivity, etc.; i.e., start working on assignments early and try to submit them ahead of time. If you are unable to submit your work on time due to extenuating circumstances, please discuss the situation with us well before anything is due so that we can develop solutions that support you.

Attendance

Absences need to be excused on exam days only. Absences due to University-sanctioned activities, work-related events, holidays or special events observed by organized religions, or illness will be excused, if you provide us with official written documentation explaining your absence. We don't really have any additional attendance policies. Just keep the following in mind: learning is your responsibility and, if you miss a lecture or lab, you will have to figure out how to "make it up;" your peers will evaluate you in terms of your contributions to the success of your team and the class, and these evaluations will be used to convert team grades to individual grades.

Class Withdrawals

Withdrawal from this course is solely your responsibility; we will not drop you from this class under any circumstances. If you no longer wish to be enrolled in this course, you must withdraw from it. If you are still on the class roll at the end of the semester, you will receive a grade based on the work submitted.

Honors Students

Students who are Crimson Scholars (3.5 GPA) who wish to have this course count as an Honors

course may do so by completing the [Course by Contract form](#). We will assign you additional work that will permit you to gain Honors credits for this course in your major. These credits will count as upper division credits towards the accumulation of 18 credits needed to graduate with University Honors. For additional information on pursuing the Honors recognition at graduation, contact the Honors College at 575-646-2005 or [email Dean Chaiken](#). Completed Contract forms must be submitted in person to the Honors College no later than one week after the beginning of each semester.

Academic and Non-Academic Integrity

Enrollment in this course and acceptance of this syllabus is your contract constituting acceptance of all University policies regarding academic and non-academic integrity. You are expected to comply fully with the NMSU Student Code of Conduct, which defines academic misconduct, non-academic misconduct, and the consequences or penalties for each. The Student Code of Conduct is available in the [NMSU Student Handbook](#). Students who are judged to be guilty of [academic misconduct](#), which includes cheating, plagiarism, and other forms of academic dishonesty, will be reported as required by [NMSU policy](#).

Student Support

NMSU is committed to ensuring all students have the support they need to be successful and expand their educational horizons.

Academic Learner Services Support

- Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADAAA) covers issues relating to disability and accommodations. If you have questions or need an accommodation in the classroom (all medical information is treated confidentially), contact: [Student Accessibility Services \(SAS\)](#), Corbett Center Student Union Room 208; Trudy Luken, Director; Phone: (575) 646-6840; [E-mail](#).
- NMSU, in compliance with applicable laws and in furtherance of its commitment to fostering an environment that welcomes and embraces diversity, does not discriminate on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex (including pregnancy), sexual orientation, spousal affiliation, or protected veteran status in its programs and activities, including employment, admissions, and educational programs and activities. Inquiries may be directed to the Laura Castille, Executive Director, Title IX and Section 504 Coordinator, [Office of Institutional Equity \(OIE\)](#) – O’Loughlin House, P.O. Box 30001, 1130 E University Avenue, Las Cruces, NM 88003; Phone: (575) 646 3635; TTY: (575) 646 7802 (TTY); [E-mail](#).
- Title IX prohibits sex harassment, sexual assault, intimate partner violence, stalking, and retaliation. For more information on discrimination or Title IX, or to file a complaint, contact Laura Castille, Executive Director, Title IX and Section 504 Coordinator, [Office of Institutional Equity \(OIE\)](#) – O’Loughlin House, P.O. Box 30001, 1130 E University Avenue, Las Cruces, NM 88003; Phone: (575) 646 3635; TTY: (575) 646 7802 (TTY); [E-mail](#).

- [NMSU Police Department](#): (575) 646-3311
- [NMSU Police Victim Services](#): (575) 646-3424
- [NMSU Counseling Services](#): (575) 646-2731
- [NMSU Dean of Students](#): (575) 646-1722
- For Any On-Campus Emergencies: 911

Student Support Services

- The [Math Success Center](#) provides students continuing support with math supplemental instruction, tutoring, and testing.
- The [Writing Center](#) offers free services to all NMSU students through one-on-one consultations at any stage in the writing process, from understanding assignment directions to revising final drafts. The Writing Center is staffed by graduate assistants who teach undergraduate writing courses in the English Department and offers online consultations for distant learners. Consultants advise students on aspects of proofreading and editing, but do not provide editing services.
- The [NMSU Student Success Center](#) offers a variety of programs and services, including Freshman Year Experience, Campus Tutoring Service, Learning & Study Skills Workshops, Peer, and TRIO Student Support Services. The Student Success Center also serves students through Career Services and Financial Literacy.
- The [NMSU Center for Academic Advising and Student Support](#) offers centralized advising for undergraduate students. We also encourage both undergraduate and graduate students to meet with [faculty in the NMSU Department of Geography](#) concerning any questions and concerns.
- [NMSU Financial Aid and Scholarship Services](#) offers timely and understandable information about financial aid and scholarship options to all students.
- The [NMSU Registrar's Office](#) supports all students at NMSU; [registering for classes](#) at NMSU requires three steps: academic advising, registering for classes, and paying the tuition and fee bill.
- [Other resources for NMSU](#) students include [tutoring services](#), the [library](#), [career services](#), the [Aggie Health and Wellness Center](#), and more. Numerous webpages provide information on [distance education](#) for online students.

Technical Support

The ICT Customer Service Center is equipped to deal with all of your information technology (IT) and telecommunications needs at NMSU. The ICT Customer Service Center hours of operation are from 8:00 am until 5:00 pm Monday through Friday Mountain Time. Please feel free to contact them at (575) 646-1840 or via [e-mail](#). You can also go to the [Student Technology Help](#) web page and [Student Resources](#) located at the [Canvas](#) web page for additional information on Canvas. For assistance with ENVI, contact your TA or Dr. Buenemann as [described above](#).

VPAT Statements

A Voluntary Product Accessibility Template, or VPAT, is a standardized form developed by the

Information Technology Industry Council to show how a software product meets key regulations of Section 508 of the Rehabilitation Act. Below are the VPATs for the primary tools in this course.

- [Microsoft Products](#)
- [Apple Products](#)
- [Canvas](#)
- [Adobe Products](#)
- [Google Products](#)
- [Harris Products](#)

Privacy Policies

We take protecting and honoring your privacy very seriously at NMSU. The privacy policies for tools used in this course are noted below.

- [Microsoft Products](#)
- [Apple Products](#)
- [Canvas](#)
- [Adobe Products](#)
- [Google Products](#)
- [Harris Products](#)

Important Dates

You may add courses through 22 August 2019 without instructor permission and through 30 August 2019 with instructor permission. Late registration fees will apply for courses added after 21 August 2019. The deadlines for dropping this course without and with a “W” are 6 September 2019 and 18 October 2019, respectively. You may withdraw from the university (withdraw from all classes) through 6 December 2019.

Syllabus Modifications Statement

We reserve the right to make changes to course materials, assignments, and policies to better accommodate your learning needs. Any changes made will be published as soon as possible via Canvas Announcements and will not adversely affect your workload or grade. For the most recent version of the syllabus, always consult Canvas.

Notes

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