GEOL 3600: Earth and Mineral Resources

Course Syllabus – Fall, 2018

# Instructor Information

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| Instructor: **James D. Myers** | |
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| Office: ESB 3030 | Office hours: MW 8:00-9:00 am |

# General Course Logistical Information

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| --- | --- |
| Credits: | 4 |
| USP 2003 | SE, G |
| Prerequisites: | completion of USP 2003 QA and L |
| USP 2015 | PN |
| A&S: | G |
| Prerequisites: | completion of USP 2015 FYS and Q |
| Class meeting times: | MWF 9:00-9:50 am |
| Class Location: | EIC 201 |
| Lab meeting times | sec. 10: Tuesday, 3:10-5:00 pm, ESB 1004 |
| and locations: | sec. 11: Wednesday, 1:10-3:00 pm, ESB 1004 |
|  | sec. 12: Thursday, 3:10-5:00 pm, ESB 1004 |
|  | (no lab the first week of classes) |
| Attendance Policy: | * *Lecture*: Although attendance is strongly correlated with success in any class, lecture attendance is not mandatory and will not be monitored. Some topics not covered in the readings will be presented in lecture and there are graded lecture activities and worksheets that are part of the final course grade. All of these are sources for exam questions. * *Lab*: Attendance is mandatory for the lab portion of the class and will be monitored. The lab syllabus, which you will receive the first week of lab, more fully describes how the lab will work, lab attendance policy, and make-up options for missed lab work. * University sponsored absences are cleared through the Office of Student Life. |
| Text(s) and Readings: | There is no required or assigned textbook. All readings are assigned based on material on the Web. This class involves weekly readings for both lecture and lab. Failure to do the readings will hinder your ability to perform successfully in lab case studies and to grasp fully the topics discussed in lecture. In sum, doing the assigned readings will materially improve your chances of earning a good grade in this course. |

## Course Description

Explores the geologic formation, production, and use of Earth and mineral resources, including building materials, chemical minerals, industrial minerals, and metals. For each resource, the geologic environment and processes of formation are discussed. Exploration and mining techniques for each resource are also reviewed and associated environmental problems and regulations examined. Beneficial and detrimental aspects of the use of each resource are also discussed.

## USP Requirement

This course fulfills the Physical & Natural World (PN) requirement of the 2015 University Studies Program. PN courses help students understand the fundamental concepts of scientific and quantitative inquiry and develop the ability to understand the relevance of scientific, technological, and quantitative skills to contemporary society. Physical & Natural World courses also develop and promote critical and creative thinking skills through active learning, inquiry of pressing issues, and individual and collaborative processing of ideas.

## Student Learning Outcomes: PN Courses

* Understand the principles of the scientific method.
* Use scientific and quantitative logic to examine contemporary problems.
* Use quantitative data analysis as the basis for making critical judgments and drawing conclusions.
* Examine the impact of technology on science and society.

## Student Learning Outcomes – Critical & Creative Thinking

* Access diverse information through focused research, active discussion, and collaboration with peers.
* Separate facts from inferences and relevant from irrelevant information, and explain the limitations of information.
* Evaluate the credibility, accuracy, and reliability of conclusions drawn from information.
* Recognize and synthesize multiple perspectives to develop innovative viewpoints.
* Communicate ideas in writing using appropriate documentation.

# Grading Policy

Your grade will be based on a total of 1,285 points that are divided between lecture worksheets, lecture exams, a final exam, lecture and lab reading questionnaires, lab quizzes, lab exercises, written reports, and oral presentations. The large number of graded activities should ensure that if you do poorly on one graded task, e.g. an exam, your final grade need not be adversely impacted if you perform well on other tasks. The grading scheme for the course is summarized below:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***activity*** |  | ***value*** |  | ***#*** |  | ***total***  ***points*** |  | ***% of lab grade*** |
| lecture reading questionnaires |  | 10 |  | 14 |  | 140 |  | 11 |
| lecture worksheets |  | 10 |  | 13 |  | 130 |  | 10 |
| lecture exams |  | 100 |  | 3 |  | 300 |  | 23 |
| lab (see breakdown below) |  | - |  | - |  | 515 |  | 40 |
| final lecture exam |  | 200 |  | 1 |  | 200 |  | 16 |
| Total Points |  |  |  |  |  | 1,285 |  | 100 |

The most up-to-date summary of the grading scheme can be found on Wyocourses since the system tracks changes in assignments and assigned points automatically.

Each week there will be a weekly lecture reading questionnaire due every Friday. They will constitute 140 points of your final grade (11%). Each questionnaire covers an assigned reading and consists of ten simple questions. The questionnaire is due by midnight on the due date. Questionnaires must be submitted via Wyocourses. They are graded automatically so pay attention to spelling. You will have two attempts to submit a questionnaire. When you try your second attempt, Wyocourses presents you with a page in which all your previous answers have been erased. Consequently, you should note which of your answers were correct on the first attempt so you can re-enter them. The system will save the attempt with the highest score. After two attempts, you can no longer change your answers to the questionnaire although you can view your answers and the correct answers after the final due date.

Throughout the semester you will complete 13 lecture worksheets during class time that are worth 10 points each. The 130 points from these worksheets will comprise 10% of your final grade. Worksheets are done in class and are unannounced. They are not graded, rather you simply sign the attendance sheet for that day to get the points. If you miss a class when a lecture worksheet is completed, you can only make it up if you have a valid excuse for your absence. Lecture worksheets focus on topics we have covered in lecture and provide you an opportunity to apply your new knowledge while preparing for exams.

Three hundred points (23%) will be from lecture exams. The exams will be on:

Monday, October 1, 9:00 am, EIC 201

Friday, November 2, 9:00 am, EIC 201

Friday, December 7, 9:00 am, EIC 201

Each exam will be worth 100 points. They will consist of short-answer questions. Exams will cover the material presented in lecture and any assigned readings, but not the labs. Past exams and their keys are posted on Wyocourses. Use them when you study for exams. You must obtain prior permission to take an exam at any time other than during the scheduled class session. If you skip an exam, you fail it with a zero. During exams, please turn off and put away all electronic devices. Electronic dictionaries are not allowed, however international students may ask for clarification of English terms during an exam. *Note: Lecture Exam III is scheduled during the last week of classes.*

There will also be a 200-point final exam (16%) on Wednesday, December 12 from 8:00 to 10:00 amin EIC 201. This exam will be comprehensive and have approximately twice the number of questions as one of the hour long, lecture exams. At least 50% of the points on the final exam will be from questions taken from the three previous lecture exams. During the final exam, please turn off and put away all electronic devices. Electronic dictionaries are not allowed, however international students may ask for clarification of English terms during the final exam. The time of the final exam is established by the Office of the Registrar (<http://www.uwyo.edu/registrar/class_schedules/fall2018/201910finalexam.pdf>). It may not be taken early. Students who have two exams at the same time or more than two exams in one day and wish to ask for an exception must complete the Final Exam Conflict form available from the Office of the Registrar. The online form is available at <http://www.uwyo.edu/registrar/students/forms_and_petitions.html>. *The form must be submitted no later than two weeks prior to the end of finals week.* Requests submitted after this date are left to the discretion of the instructor as to whether or not they will be accommodated. *If you cannot make the scheduled time of the final exam, you need to drop this course immediately*.

The lab will make up the final 515 points (40%) of the course grade. The breakdown for the various lab activities and their points are:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***activity*** |  | ***value*** |  | ***#*** |  | ***total***  ***points*** |  | ***% of lab grade*** |
| lab reading questionnaires |  | 10 |  | 12 |  | 120 |  | 23 |
| lab exercises |  | 25 |  | 4 |  | 100 |  | 19 |
| lab quizzes |  | 10 |  | 4 |  | 40 |  | 8 |
| lab oral presentations |  | 10 |  | 7 |  | 70 |  | 14 |
| lab written reports |  | 15 |  | 4 |  | 60 |  | 12 |
|  |  | 25 |  | 5 |  | 125 |  | 24 |
| Total Points |  |  |  |  |  | 515 |  | 100 |

*Note: This lab schedule reflects what was planned at the beginning of the semester. It will likely change as the semester progresses. The most current lab schedule can be found on Wyocourses.*

All students must participate in lab and complete the assigned work. Unlike for lecture, attendance of lab is mandatory. You must receive a passing lab grade to pass the course. The lab syllabus, which you will receive the first week of lab, more fully describes how the lab will work. Missed work can only be made up if you have an official University excuse for missing lab or have obtained permission from your lab TA *before* you miss lab. Any late work must be made up within one week of its due date (see lab syllabus for additional details). There will be no lab final.

Until October 1, there will be a weekly lab quiz that covers the material from the previous week’s lab. They will constitute 40 points of your final lab grade (8%). These quizzes are taken online in the lab classroom. The quizzes will be available ten minutes before the beginning of the official lab class period and until 10 minutes after class starts. Thus, if you have a 1:10 pm lab, you can take the quiz on one of the lab computers between 1:00 and 1:20 pm. *If you come to lab late and miss the quiz cut-off time, you fail the quiz.*

After October 1, there are no more lab quizzes. Starting at this date, you must prepare and give oral and written reports to present the results of your evaluation of a particular resource problem. As with all real-life resource questions, there are no clear-cut answers to the problems you will address. The conclusions you reach and the reports you present will be graded on how well you justify your conclusions. You will be provided oral presentation and written report rubrics for each case study. There are seven oral presentations worth 10 points each for a total of 70 points or 14% of your lab grade. Five of the written reports are worth 25 points each or 125 points total and 24% of your lab grade. Another four written reports are worth 15 points each for 60 points (12%) of your final lab grade. These will be done in assigned groups.

Each week there will be a weekly lab reading questionnaire due the day before your lab session. They will constitute 120 points of your final lab grade (23%). Each questionnaire covers an assigned reading and consists of ten short-answer questions. The questionnaire is due by midnight on the due date. Questionnaires must be submitted via Wyocourses. They are graded automatically so pay attention to spelling. You will have two attempts to submit a questionnaire. When you try your second attempt, Wyocourses presents you with a page in which all your previous answers have been erased. Consequently, you should note which of your answers were correct on the first attempt so you can re-enter them. The system will save the attempt with the highest score. After two attempts, you can no longer change your answers to the questionnaire although you can view your answers and the correct answers after the final due date.

There will be no grading curve for this course. For the eleven years I have taught this course, the final grade distribution has worked out such that I would not have curved the grades even if I did not have a no-curve policy. Final grades will be assigned according to the following scale:

|  |  |  |
| --- | --- | --- |
| ***Grade*** | ***Percentage***  ***cut-off*** | ***Point***  ***cut-off*** |
| A+ | >97 | >1,246 |
| A | >93 | >1,195 |
| A- | >90 | >1,156 |
| B+ | >87 | >1,118 |
| B | >83 | >1,067 |
| B- | >80 | >1,028 |
| C+ | >77 | >989 |
| C | >73 | >938 |
| C- | >70 | >900 |
| D | >60 | >771 |
| F | <60 | <771 |

When calculating final grades, Wyocourses carries the calculation out to one decimal place. For legal reasons, I will be using this scheme for assigning final grades. Therefore, what you see as your final grade in Wyocourses at the end of the semester is the grade you earn for the course. *I will not be rounding the final percentages displayed in WyoCourses to zero decimal places.*

A fixed grading scheme emphasizes that you are not competing with your peers for a grade. It also means that your grade in the course is based on the quality of your work, not on how well or poorly your peers do in the course. If all students in the course earn an A, I will be very pleased. It would indicate you all worked hard and mastered the subject matter. One way of achieving this is by working with your peers to understand the topics presented in lecture and lab. *Note: This grade scheme reflects what was planned at the beginning of the semester. It will likely change as the semester progresses. The most current version of the grading scheme can be found on the Wyocourses class web site.*

# Course Details

## Organization

This is a lecture-lab course. Out of respect to your fellow students, and me, please do not engage in conversation during lecture when I am addressing the class. It is distracting to your neighbors and disruptive to the class as a whole. Anyone repeatedly talking during lecture will be asked to leave immediately. When entering class, please turn off your cell phone.

The geology, production, and use of a variety of Earth and mineral resources will be presented through lectures and lecture worksheets. From the lectures, you will gain an understanding of the technical aspects of resource extraction and development as well as the environmental and social externalities associated with resource use. The labs will introduce you to the skills (literacies) necessary to apply this scientific and technical background to various resource issues or problems.

Most of the labs will consist of case studies spanning three weeks. Each case will focus on a particular resource, e.g. gold, copper, etc., in a particular international (South Africa) or national (Upper Peninsula) setting. The first week of a case study will concentrate on the geologic aspects of the resource and employ the fundamental and technical literacies. The second week will deal with the economic aspects of the resource. It will use mostly the fundamental literacies. The final week of a case study, will look at the societal and cultural aspects of resource extraction. These sessions will introduce the citizenship skills so important in gauging the social, political, and cultural impacts of resource development. Literacies will be progressively added as we move through the semester. By the middle of the semester, you will have had practice with all the fundamental, technical, and citizenship literacies and should be able to use them independently in the remaining lab activities. The case studies have been selected to present both a national and international perspective of resource exploration, development, and exploitation.

For each lab, you will be asked to formulate a course of action and articulate and defend that position in both written reports and oral presentations. As with real world issues, there are no clear-cut answers to the policy decisions that must be made. Rather, you must defend your position using the knowledge you have learned and the literacies you have mastered.

## Course Objective & Social Relevance

Citizens of modern democracies are continually faced with decisions about a variety of resource issues: e.g. Should a limestone quarry be allowed next to a new subdivision? Will a proposed heap-leach gold mine affect adversely local water supplies? What are the likely economic and social ramifications of constructing a copper ore smelter? Typically, citizens formulate their responses to these questions based on a limited understanding of the resource, its origin and distribution, perceived economic, political and social impacts, and an imperfect appreciation for potential short- and long-term environmental and social impacts. In contrast to this approach, making an informed decision requires:

* mastery of a range of basic skills (fundamental literacies);
* knowledge of specialized scientific abilities (technical literacies);
* an understanding of how resource development impacts local, regional, national, and international social groups (citizenship literacies); and
* a scientific, technological, engineering, and mathematical (STEM) understanding of the resource’s geology, extraction, and processing methods and the impacts of its ultimate use and disposal.

This course is designed to provide you, a citizen of an industrialized democracy, with the skills necessary to formulate successfully informed and reasoned responses to a variety of Earth and mineral resource issues. You will increasingly encounter these types of issues as a citizen.

Many advanced environmental, legal, and political science courses take a similar approach to discussing resource development. This course differs from them in three important aspects.

* First, this course assumes that a STEM understanding of the resource in question is a critical component for developing that resource in a most effective manner. Thus, unlike other courses it starts with a sound STEM background.
* Second, the intended audience for this course is likely to play a very different role in public resource discussions than those of the more advanced courses. To illustrate, consider a public hearing convened to discuss the potential impact of a proposed copper mine on a local community. The advanced courses are designed to prepare the professionals who would be sitting in front of the meeting conducting it. In contrast, this course is designed to meet the needs of the citizens sitting in the audience. Many of you in this course are unlikely to become professionals dealing with resource issues. However, most of you, if not all, are likely as citizens to be impacted by a host of decisions made about resource extraction and use.
* Finally, this course explicitly recognizes the importance of supplemental skills (literacies) necessary to utilize STEM knowledge in the resolution of societal issues. Thus, it provides you with ample opportunity to master these literacies while also acquiring STEM knowledge. Mastery of these skills will aid you in many other endeavors outside this course.

As a citizen, you will probably need to make decisions about a variety of local, regional, and national issues. In addition, you will have to evaluate conflicting claims on these issues. To help insure your decisions are informed and constructive, this course will allow you to:

* practice, frequently and continually, qualitative assessment, quantitative calculation and graph interpretation skills (*fundamental literacies*) needed to assess resource issues from a STEM perspective;
* learn the techniques (*technical literacies*) necessary for evaluating the geological aspects of resource issues;
* master the methods (*citizenship literacies*) for assessing the social impacts of resource extraction and use;
* study the geologic content needed to understand the origin and distribution of a variety of critical Earth and mineral resources; and
* build an awareness of comparative, international, and global processes through historical and contemporary case studies of resource extraction.

Upon completing the course, you will be able to:

* identify data/information needed to make an informed decision about a particular resource issue;
* understand the basics of the geologic formation of a variety of Earth and mineral resources;
* assess the range of potential environmental, social, cultural, political, and personal impacts associated with resource development; and
* formulate means of evaluating systematically proposed Earth resource development projects.

## Literacies

To understand the content of a scientific discipline and apply it successfully to a range of societal issues and problems, it is necessary to master a number of different skills, i.e. literacies that are separate from content knowledge. These literacies fall into three basic groups: fundamental, technical, and citizenship. The fundamental literacies allow you to manipulate the data and information of a scientific discipline. Although you should have used some of the literacies previously in your educational career, you may have not had much practice with them recently. The fundamental literacies include the:

* ability to *read* a table and *interpret* a graph or chart;
* facility to *make* qualitative assessments;
* capacity to *estimate* the magnitude of simple quantitative calculations; and
* aptitude to *perform* simple quantitative calculations correctly.

For many sciences like geology, which describes the formation and setting of many Earth and mineral resources, an additional set of literacies are necessary. These are the technical literacies, which allow you to understand and appreciate the scale of geological change and structures and how they are impacted by resource activities, singularly and cumulatively. Because of their more advanced nature, you may have had limited practice with some of these technical literacies. Indeed, some may be completely new to you. The geosciences technical literacies consist of the:

* skill to *read and interpret* different types of maps;
* ability to *visualize* in three dimensions; and
* capacity to *conceptualize* changes through time.

The application of scientific understanding to societal problems requires both discipline specific knowledge as well as the ability to predict how modification of natural systems will affect different cultures and societies. The citizenship literacies allow you to assess resource issues as they impact different social and political groups. As with the technical literacies, your previous experience with these literacies may be very limited. The citizenship literacies comprise:

* critical thinking literacies
  + ability to *identify* social, cultural, and political consequences (manifest and latent)
  + capacity to *recognize* impacts (short- and long-term) to the physical environment
  + power to *ascertain* economic externalities, i.e. hidden and shared costs
* social context literacies
  + an appreciation of historical background & significance
  + an understanding of population demographics
  + a knowledge of economic context
  + an awareness of diverse cultural & social viewpoints/perspectives
* informed engagement literacies
  + capacity to devise alternative solutions/plans
  + ability to achieve common ground

This course will provide you with practice mastering all of these literacies as you learn the scientific and geologic basics of Earth and mineral resources.

## Lecture

Although it should go without saying, please do not engage in conversations with your neighbor while I or one of your peers is addressing the class. In addition, if one of your classmates has been recognized and is speaking, please be courteous and do not interrupt them or talk over them. Such behavior is disrespectful not only to the speaker but to your other classmates as well. Extraneous conversations and comments are distracting to your neighbors, disruptive to the class as a whole, and prevent others from hearing what the speaker has to say. Anyone repeatedly talking out of turn during lecture will be asked to leave immediately. When entering class, please silence your cell phone so it will not distract people if it rings. While you are free to use electronic devices in class, they must be used for class purposes only, e.g. searching something on the topic being discussed, viewing the Wyocourse web site, browsing the current class presentation, etc. Checking social media is not considered a class activity. I have sat in on classes where students do this and have observed it distracting students sitting around the individual surfing.

The tentative lecture schedule for Fall, 2018 is shown in the table below.

|  |  |
| --- | --- |
| **Week of** | **Topic** |
| 27-Aug-18 | Historical Perspective: Overview |
| 03-Sep-18 | Science, Geology & Citizenship: Scientific Investigations, Critical Thinking, Normative vs Positive Questions, The Literacies, Uncertainty-Complexity-Heterogeneity, Wicked and Superwicked Problems, Resource Curse |
| 10-Sep-18 | Mineral Resources: Overview, Mineral vs. Ore Deposits, Elements Used, Mineral Supply, Elemental Availability |
| 17-Sep-18 | Mineral Deposits: Introduction, Sedimentary, Igneous, Metamorphic |
| 24-Sep-18 | Mineral Discovery: Introduction, Prospecting, Exploration |
| 01-Oct-18 | Mineral Extraction: Introduction, Mining Operations, Dewatering, Surface Mining, Underground Mining |
| 08-Oct-18 | Mineral Processing: Introduction, Comminution, Beneficiation, Dewatering, Disposal (Waste Rock, Tailings) |
| 15-Oct-18 | Mineral Economics & Law: Introduction, Resources on Federal Land, Environmental Law, Mineral Profits & Taxation, Externalities, Stakeholders |
| 22-Oct-18 | Metals: Classification, Ore Genesis, Extractive Metallurgy, Pyrometallurgy, Hydrometallurgy |
| 29-Oct-18 | Scarce - Precious Metals: Gold: Formation, Production, Use |
| 05-Nov-18 | Scarce - Base Metals: Copper: Formation, Production, Use |
| 12-Nov-18 | Abundant Metals: Aluminum: Formation, Production, Use |
| 19-Nov-18 | Abundant Metals: Iron: Formation, Production, Use |
| 26-Nov-18 | Scarce Metals: Ferroalloys: Molybdenum: Formation, Production, Use |
| 03-Dec-18 | Special Metals: Lithium: Formation, Production, Use |
| 10-Dec-18 | Special Metals: Rare Earth Elements: Formation, Production, Use |

## Lab

The table below documents the tentative lab schedule for Fall, 2018.

|  |  |  |  |
| --- | --- | --- | --- |
| Week of |  | **Topic** | **activity type** |
| 27-Aug-18 |  | no lab |  |
| 03-Sep-18 | 1 | Population: The Demand Behind Resource Consumption | lab exercises |
| 10-Sep-18 | 2 | Maps: An Exploration and Planning Tool | lab exercises |
| 17-Sep-18 | 3 | Geologic Maps: Finding and Extracting Resources | lab exercises |
| 24-Sep-18 | 4 | Visualizing Earth: Thinking in Three Dimensions | lab exercises |
| *Case Study: Gold: Its Impact on South Africa* | | | |
| 01-Oct-18 | 5 | I. Finding Gold Deposits | written report  oral presentation |
| 08-Oct-18 | 6 | II. Calculating the Potential Value of a Deposit | written report  oral presentation |
| 15-Oct-18 | 7 | III. The Political and Social Impacts | written report |
| *Case Study: Copper: Production in the High Peruvian Andes* | | | |
| 22-Oct-18 | 8 | I. Dewatering a Copper Mine - Hydraulic Assessment | written report  oral presentation |
| 29-Oct-17 | 9 | II. Water Quality and Copper Ore Processing | written report  oral presentation |
| 05-Nov-18 | 10 | III. Controlling SO2 Emissions | written report |
| 12-Nov-18 | 11 | IV. Natural Resources and Social Justice | written report |
| 19-Nov-18 |  | no lab: Thanksgiving week |  |
| *Case Study:* Lithium: Chile and the World's Lithium Supply | | | |
| 26-Nov-18 |  | I. Locating Viable Lithium Deposits | written report  oral presentation |
| 3-Dec-18 |  | II. The Environmental Consequences of Lithium Production | written report  oral presentation |

# General University Policies/Regulations

## Class Effort

According to the UW catalog “Each credit hour unit requires an average of three hours of student effort per week". Since this is a 4-credit course, you should expect to work a minimum of twelve hours a week outside of class meetings. To get a good grade in the class, expect to work more than this. Also prepare for exams well in advance. Don’t start studying the night before and expect to earn a good grade on the exam.

## Final Examination Policy (UW Regulation 6-403)

* The Registrar is authorized to schedule final examinations. With only the exceptions specifically designated below, exams will be given at the times thus designated and no other times. The examination schedule shall be published at least one month before the first day of final examinations.
* No student shall be required to take more than two final examinations in any one day. Along with the specific final examination schedule, the Registrar shall indicate a system of priorities which will determine which course is expected to offer an examination at a different time for a student who is scheduled for more than two final examinations in one day or more than one at the same hour.
* To avoid excessive pressure on students during the week before final examinations, no examination or graded exercise should be given in the last week of classes unless it is essential for the effective functioning of the course. If an examination or graded exercise in the last week of classes is deemed essential, the instructor shall notify the students of it in a class syllabus distributed at the beginning of the course.
* Instructors are not obligated to give final examinations ahead of schedule to those students who, for legitimate reasons connected with official University activities, cannot take the final examination at the scheduled time. In such cases, students are entitled to receive a grade of "X", subject to the usual procedures and conditions of the grade of "X".
* More information: <http://www.uwyo.edu/generalcounsel/_files/docs/uw-reg-6-403.pdf>.

## Student Absence Policy (UW Regulation 6-713)

* Class Attendance: Each student shall attend the lectures, recitations, and laboratories and participate in field work deemed necessary to fulfill adequately the academic requirements of each class. Each instructor, at the beginning of every semester, shall stipulate the attendance policy necessary for satisfactory completion of the course.
* Authorized Absences: For participation in a University-sponsored activity or for unusual circumstances, such as a personal hardship, an authorized absence may be issued to the student by the Dean of Student’s or the Dean’s authorized representative. If a student has been hospitalized, or if the student has been directed by the Student Health Service or the student's private physician to stay at the student's place of residence because of illness, the Health Service medical staff or the student's private physician may issue a statement to the student giving the dates of the student's confinement.
* Recognition of Authorized Absences: All instructors shall permit students who have official authorized absences to make up work without penalty in the classes missed. An authorized absence, however, merely gives the individual who missed the class an opportunity to make up the work and in no way excuses the student from the work required.
* More information: <http://www.uwyo.edu/generalcounsel/_files/docs/uw-reg-6-713.pdf>.

## Academic Honesty (UW Regulation 6-802)

* All members of the University community are responsible for upholding the values of academic integrity. The faculty considers academic integrity a matter of common concern, not merely a private issue between instructor and student. Honesty in all academic endeavors is a component of academic integrity that is vital to the educational functions of the University. Whatever form academic dishonesty may take, the faculty considers it as establishing a student’s failure to demonstrate the acquisition of knowledge and the failure to apply it to an academic endeavor. It is a student’s responsibility to learn the standards of conduct for the performance of academic endeavors; it is an instructor or faculty member’s responsibility to make reasonable effort to make known the standards of conduct for the performance of academic endeavors. Through an atmosphere of mutual respect, we enhance the value of education and maintain high standards of academic excellence. Failure on the part of the student to observe and maintain standards of academic honesty, as hereafter defined or made known by an instructor responsible for a course or other academic endeavor, requires corrective action as hereafter authorized.
* Academic Dishonesty: An action attempted or performed that misrepresents one’s involvement in an academic endeavor in any way, or assists another student in misrepresenting his or her involvement in an academic endeavor. Examples of academic dishonesty include, but are not limited to:
  + *Plagiarism*: presenting the work (i.e., ideas, data, and creations) of another, wholly or in part, as one’s own work without customary and proper acknowledgement of sources and extent of use, unless authorized by the instructor.
  + *Cheating*: using information, study aids, notes, materials, devices, or collaboration not explicitly approved by the instructor. For example: doing a class assignment for someone else or allowing someone to copy one’s assignment; copying from, or assisting, another student during an examination; or stealing, or otherwise improperly obtaining, copies of an examination before or after its administration.
  + *Fraud*: altering or inventing data, research, or citations for an academic endeavor; fabricating, forging or otherwise misrepresenting to an instructor or an institution one’s past or current academic or professional activities; impersonating someone or allowing oneself to be impersonated for an examination or other academic endeavor; using a ghost writer, commercial or otherwise, for any type of assignment.
  + *Violation of Standards*: violations against ethical and professional standards required by individual University programs, academic courses, and clinical programs that may result in qualification for entry into a profession that maintains standards of conduct.
  + *Multiple Submissions*: submitting, wholly or in part, the same academic endeavor to earn credit in two or more courses without explicit approval by all concerned instructors.
  + *Interference or Obstruction*: interfering with academic efforts of other students to gain unfair advantage for personal academic advancement. Interference may include but is not limited to, sabotage, harassment, tampering, bribery, or intimidation of another student.
  + *Complicity*: assisting another person in any act of academic dishonesty as defined above.
* Academic Endeavor: Any student activity undertaken to earn University credit or meet some other University program requirement. Examples of academic endeavors include, but are not limited to:
  + Course assignments (written and/or oral, projects, research, exhibitions of work)
  + Exams (written and/or oral, quizzes
  + Clinical assignments (internships, rotations, practical)
  + Presentations (on and off campus)
  + Publications
  + Independent study coursework
  + Plan B papers or projects, theses, dissertations
  + Student media associated with academic credit
  + More information: <http://www.uwyo.edu/generalcounsel/_files/docs/uw-reg-6-802.pdf>.

## Assignment and Removal of the Grade of I (incomplete) (UW Regulation 6-720)

* A grade of I (incomplete) is a temporary grade assigned in those rare instances when no other grade will ensure justice to the student. An "I" given by the instructor should be accompanied by a written authorization setting forth:
  + the reason the course cannot reasonably be completed on time,
  + the tasks which must be performed to complete the course,
  + the date upon which the final grade will be received by the Office of the Registrar and which normally may not exceed 120 days beyond the end of the semester in which the "I" is given, and
  + the name of a substitute faculty member, if the instructor does not expect to be available to supervise completion of the course.
  + This information will be forwarded to the student and copies should be retained by the student, instructor, and a substitute faculty member.
* The Dean of Students is authorized to petition for an "I" in the name of a student who has been incapacitated. If a student has suffered a severe medical, emotional, or personal problem, the 120-day limit for completing the course may be extended with the approval of the instructor and the Dean of Students.
* In certain research courses designated to the Registrar by the Dean of the College, the date of submitting the final grade for the course may be set to exceed the 120-day limit at the discretion of the instructor.
* If the final grade for the course is not received by the Registrar by the date in the authorization:
  + the "I" will revert to an "F" for a student who has not graduated in the interim, and
  + the "I" will stand permanently for a student who has graduated in the interim.
* More information: <http://www.uwyo.edu/generalcounsel/_files/docs/uw%20reg%20updates%202015/uw%20reg%206-720.pdf>.

## Disability Statement

If you have a physical, learning, sensory or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability to, University Disability Support Services (UDSS) in SEO, room 330 Knight Hall, 766-6189, TTY: 766-3073.

## Other University regulations can be found at:

<http://www.uwyo.edu/generalcounsel/new-regulatory-structure/index.html>.

# Disclaimer

*I reserve the right to make changes to any aspect of this syllabus as the course proceeds. These changes will be announced in class. Substantive changes made to the syllabus shall be communicated to you verbally in class and in writing via Wyocourses.*