MAJOR CORE COURSE

CS111A: Continuous Mathematical Systems

TERM
Fall 2018

CREDIT
4

Course Description

In this course, students learn the principles of single and multivariable calculus needed to succeed in the concentration courses and beyond. While a traditional course in these topics focuses on the analytic techniques needed to do complex computations by hand, and evaluates students primarily on their ability to do so. This course takes a different approach. Students primarily learn to understand and apply concepts to solve problems in a variety of practical contexts. While the standard computational techniques are covered and practiced, students will take full advantage of technologies such as Sage to supplement their skills.

This course requires an online meeting with the instructor outside of normal class hours as part of the final project. This meeting will be scheduled during weeks 14 or 15.

Note that this syllabus is subject to change.

Course Objectives & Learning Outcomes

Differentiation: Apply the tools of differentiation and interpret the results.

#Diffapplication : Employ the concepts or techniques of differentiation in an applied context.

#Difftheory : Employ the concepts or techniques of differentiation in a theoretical context.

Foundations: Apply foundational mathematical tools and interpret the results.

#limitscontinuity : Employ the concepts and techniques of limits and continuity of functions.

#mathtools : Employ ancillary mathematical techniques, or mathematical tools such as Sage in support of the analysis and solution of a problem.

Integration: Apply the tools of integration and interpret the results.

#Intapplication : Employ the concepts or techniques of integration in an applied context.

#Inttheory : Employ the concepts or techniques of integration in a theoretical context.

Prerequisites & Working Knowledge

There is no formal requirement for this course beyond what is expected for admission to Minerva and passing CS50: Formal Analyses. You should be comfortable with the interpretation and manipulation of mathematical functions and their graphs. Depending on your background, you may wish to review the definitions, graphs, and properties of exponential, logarithmic, and basic trigonometric functions.

Assignments

Note: Sunday is considered the beginning of the academic week for determining due dates.

ASSIGNMENT TITLE	WEIGHTING	IMPORTANT DATES
Assignment 1	3x	**Released:** Week 2, Sunday **Due:** Week 3, Sunday
Assignment 2	3x	**Released:** Week 3, Sunday **Due:** Week 4, Sunday
Assignment 3	3x	**Released:** Week 4, Sunday **Due:** Week 5, Sunday
Assignment 4	3x	**Released:** Week 6, Sunday **Due:** Week 7, Sunday
Assignment 5	3x	**Released:** Week 8, Sunday **Due:** Week 9, Sunday
LBA / Assignment 6	3x	**Released:** Week 10, Sunday **Due:** Week 11, Sunday
Final Assignment	8x	**Released:** Week 13, Sunday **Due:** Week 15, Friday

Required Texts

Course videos and notes.

Schedule of Topics and Readings

This course meets for 2 class sessions each week.

Unit 1: Limits and Continuity

This unit is an introduction to limits and the continuity of functions - the foundations of calculus. These topics are covered from algebraic, graphical, and applied points of view.

Session 1.1 : Limits I

Learning Outcomes

#limitscontinuity : Employ the concepts and techniques of limits and continuity of functions.

#mathtools : Employ ancillary mathematical techniques, or mathematical tools such as Sage in support of the analysis and solution of a problem.

Readings, Videos, and other preparation resources:

Video: Introduction
https://drive.google.com/open?id=1G3m-yfnju_42-Pq4hgXiTfrVOSCtvNYF

Video: Limit Definition
https://drive.google.com/open?id=1QZX_vqwpdOcbCxD9Brfq3pIt9UM17qc4

Video: Limit Algebra
https://drive.google.com/open?id=1FoOKnXPBkgEJpmNuc0e34vSssDDUXCBP

Video: Asymptotes
https://drive.google.com/open?id=1EzkjviRnmWIA9yG7HZozq_2GedPIVHzz

PREP Tutorials. (n.d.). Retrieved from http://doc.sagemath.org/html/en/prep/
http://doc.sagemath.org/html/en/prep/

Session 1.2 : Limits II

Learning Outcomes

[Continued] #limitscontinuity : Employ the concepts and techniques of limits and continuity of functions.

[Continued] #mathtools : Employ ancillary mathematical techniques, or mathematical tools such as Sage in support of the analysis and solution of a problem.

Readings, Videos, and other preparation resources:

Video: Multivariable Functions
https://drive.google.com/open?id=1xiVFm0B3jKSrxrExqCNjsicBm4cnL0KQ

Video: Multivariable Limits
https://drive.google.com/open?id=1g_p90eXd2hst-tO5Mfg5p_pnPaGCmTlG

PREP Tutorials. (n.d.). Retrieved from http://doc.sagemath.org/html/en/prep/
http://doc.sagemath.org/html/en/prep/

Session 2.1 : Continuity I

Learning Outcomes

[Continued] #limitscontinuity : Employ the concepts and techniques of limits and continuity of functions.

Readings, Videos, and other preparation resources:

Video: Continuous Functions
https://drive.google.com/open?id=1p_joJOtR6U-lcJoBbRKLIcQYObvMuRJn

Video: Continuous Applications
https://drive.google.com/open?id=1rgU2-iEiTR0naKkjhvTjhVGTfFwmyoKQ

Unit 2: Differentiation and its Application

Differential calculus is fundamentally about how functions change - often, but not exclusively, with respect to time. In this unit, such change is studied from the point of view of both a single independent variable, and multiple independent variables. The ultimate goal is to build competence in solving a large variety of rate and optimization problems.

Session 2.2 : Single Variable Differentiation I

Learning Outcomes

#Difftheory : Employ the concepts or techniques of differentiation in a theoretical context.

#Diffapplication : Employ the concepts or techniques of differentiation in an applied context.

Readings, Videos, and other preparation resources:

Video: 2.2 Average vs Instantaneous Rates
https://drive.google.com/open?id=1RePvN75cLnthOYT6NVCILORPSTjZbr-_

Video 2.2 Definition of Derivative
https://drive.google.com/open?id=1fpiKG8-j7vRO6L7VKVQOVuPPHClQ9PIy

Video: 2.2 Calculating Derivatives
https://drive.google.com/open?id=135qY6VnKeMoFpFxhIuLsSZItytT_NQdL

Video: 2.2 Secant and Tangent Lines
https://drive.google.com/open?id=1g8elCSsaQlF9XdFl3bbpr42g6sMgqMwP

PREP Tutorials. (n.d.). Retrieved from http://doc.sagemath.org/html/en/prep/
http://doc.sagemath.org/html/en/prep/

Session 3.1 : Single Variable Differentiation II

Learning Outcomes

[Continued] #Difftheory : Employ the concepts or techniques of differentiation in a theoretical context.

[Continued] #Diffapplication : Employ the concepts or techniques of differentiation in an applied context.

Readings, Videos, and other preparation resources:

Video: The Algebra of Derivatives
https://drive.google.com/open?id=1ABDcualXHMvVangHZdmZg2Lt7d3sL1wC

Video: Power Rule
https://drive.google.com/open?id=1Devy0MRdUaqxotvUMbU95Jj21EdKfVCZ

Video: Product Rule
https://drive.google.com/open?id=1OuB7dcacEiBr21Pdk-bKNXG-iWtfnzYN

Video: Chain Rule
https://drive.google.com/open?id=1lLgwR9N3B0BL6U5_8VfCcCLiODm3eGCa

PREP Tutorials. (n.d.). Retrieved from http://doc.sagemath.org/html/en/prep/
http://doc.sagemath.org/html/en/prep/

Session 3.2 :
Linear Approximation

Learning Outcomes

#Diffapplication : Employ the concepts or techniques of differentiation in an applied context.

[Continued] #Difftheory : Employ the concepts or techniques of differentiation in a theoretical context.

Readings, Videos, and other preparation resources:

Video: Linear Approximation
https://drive.google.com/open?id=1SKsZs6PjC-0-VrernZVSosYBK3FjkOsS

Video: Quadratic Approximation
https://drive.google.com/open?id=1kK6tFQgd7CmsM6djQ5oH0l1KTFQVpkxr

Session 4.1 :
Multivariable Differentiation I

Learning Outcomes

[Continued] #Difftheory : Employ the concepts or techniques of differentiation in a theoretical context.

Readings, Videos, and other preparation resources:

Session 4.2 :
Multivariable Differentiation II

Learning Outcomes

[Continued] #Difftheory : Employ the concepts or techniques of differentiation in a theoretical context.

Readings, Videos, and other preparation resources:

Session 5.1 :
Related Rates I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 5.2 : Related Rates II

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 6.1 : Blank

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 6.2 : Optimization I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 7.1 : Optimization II

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 7.2 : Optimization III

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 8.1 :
Lagrange Multipliers I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 8.2 :
Lagrange Multipliers II

Learning Outcomes

Readings, Videos, and other preparation resources:

Unit 3: Integration and its Application

While integration is not as easy to colloquially define as differentiation, at its heart it is about summation. It is also a much less compact topic in that there are many more ad hoc techniques, and also general approaches to problem solving. This unit starts with the essentials of single variable intervals over intervals and multivariable integrals over rectangular domains. However, it culminates with an exploration of improper integrals with the goal of understanding, manipulating, and applying distribution functions - essential tools for probability and statistics.

Session 9.1 :
Single Variable Integration I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 9.2 :
Single Variable Integration II

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 10.1 :
Single Variable Integration III

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 10.2 :
Multivariable Integration I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 11.1 :
Multivariable Integration II

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 12.1 :
Improper Integrals I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 12.2 :
Improper Integrals II

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 13.1 :
Improper Integrals III

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 13.2 :
TBA

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 14.1 :
Final Problem Set I

Learning Outcomes

Readings, Videos, and other preparation resources:

Session 14.2 :
Final Problem Set II

Learning Outcomes

Readings, Videos, and other preparation resources:

Policies

Professional Behavior

Minerva expects students to follow guidelines of professional behavior. With respect to academics, this means you

are required to prepare appropriately for each class and actively participate in all of them. You should read all assigned materials, watch assigned videos, and complete all assigned pre-class work, including solving assigned problems and answering study guide questions. Because all of our classes are seminars, all students must be prepared to be full participants—to shirk on preparation not only short-changes you, it also undermines the experience for the other students. You are also required to adhere to assignment guidelines and deadlines, and to contact the appropriate administrator promptly if you experience major extenuating circumstances. In such cases we will work with you to complete your work when this is possible. Additional information, and consequences for failing to meet requirements are described below.

Absence/Tardiness Policy

Tardiness: You are expected to be logged on to the ALF, ready to participate in class, by the class's stated start time. You should arrive a few minutes early to ensure that you have sufficient time to respond to any potential technical issues (see sections below for policies). You will be considered late if you miss between 2 and 15 minutes of class in total, and absent if you miss 15 minutes or more of the class session. There will be at least 15 minutes between class meeting times to accommodate restroom breaks. Being late to class *two times* will be counted as an absence. A single late arrival (defined as missing between 2 and 15 minutes of class in total) will have no impact on your absence total, and a third late arrival will not affect the absence total beyond the one undocumented absence accrued after the second late arrival, unless a fourth late arrival occurs; being late 4 times = 2 undocumented absences. Late arrivals to class due to verified technical problems will not be counted. Absences resulting from being late twice to class will not require makeup work.

Undocumented Excusable Absences: These absences may be taken at any time and for any reason, without the need to submit documentation of the reason for the absence. Please refer to the table below for the number of undocumented excusable absences allowed based on the type of course. When a student is absent, ALF will record this absence as unexcused. You must submit satisfactory makeup work for each absence for it to become excused (except for an absence due to being late twice as noted above).

Documented Excusable Absences due to Extenuating Circumstances: Students who experience major extenuating circumstances (such as severe illness, injury, family emergency, or personal loss) that could cause them to have more than the allowed undocumented excusable absences, or need more time to complete make-up work, or who need more than the four allowed 24-hour assignment extensions may submit supporting documentation to request additional absences or extensions using the Extenuating Circumstances Request Form, available atregistrar.minerva.kgi.edu. Under such circumstances, requests may be submitted whether or not the student has already used their three undocumented excusable absences. Documentation for extenuating circumstances must be from a medical professional, mental health professional (with whom the student has a prior counseling relationship), or other appropriate authority. Student Affairs staff will only provide documentation in instances when they are directly involved in student emergencies and are best-suited to provide it. The Academic Team approver will review and approve or deny the request and, if needed (because of a chronic or major issue), work with you,

your advisor, and your instructor(s) to determine the best plan for you to successfully complete your course or courses given your circumstances. All absences approved as eligible to be excused will require makeup work to be submitted by the date designated by the approver.

Minor illnesses and attendance at academic events (such as competitions or conferences) will not be considered extenuating circumstances. For these cases, you must use your undocumented excusable absences and complete the makeup work. Once your three undocumented excusable absences are used, you will only be allowed to miss further classes or obtain further assignment extensions if you experience an extenuating circumstance as described above and the additional absences are approved.

Maximum number of absences per course: Minerva's active learning model means that a student's learning is significantly impacted by their preparation for and engagement/participation in class. Thus, we have instituted a maximum number of class absences a student can accumulate and remain in the course. Please refer to the table below to obtain the maximum number of absences (typically ~25%). Exceeding the absence limit for any reason (both undocumented absences and documented absences due to extenuating circumstances) will result in withdrawal from the course (see Student Handbook).

Students who exceed the number of maximum absences for any reason (undocumented or documented) will automatically receive a notice that they are subject to withdrawal (drop) from the course. The student will be dropped or withdrawn from the course depending on when during the semester the maximum absence number is exceeded (dropped, during the drop period; withdrawn after the drop period). There may be consequences to a student's F-1 visa status if the course drop/withdrawal puts the student below 12 units (see Student Handbook for details). Students who exceed the maximum absences near the end of the semester (week 14) may petition the Academic Standards Committee (ASC) for an Incomplete if there are documentable major extenuating circumstances at that time. See the Student Handbook for information on what criteria the ASC will use when considering a petition.

Course type	Number of undocumented excusable absences	Maximum total number of absences for any reason
Cornerstone/Core/ Concentration	3	6
Capstone Seminar	1	2
Senior Tutorial/Research Methods	2	3

Make-up work policies for absences: Make-up work must be submitted no later than 7 days (by midnight in the student's timezone) from the absence using the standard submission form available atregistrar.minerva.kgi.edu. If a student needs additional time to complete the makeup work because of an extenuating circumstance, they will need to submit a request using the extenuating circumstance request form at the registrar site. This form must be submitted 48 hrs before the 7 day deadline to allow time for the extension request to be examined and responded to

by Academic staff. Instructors will not be granting these extensions as was the case in Spring 2018.** **All absences (except those resulting from being late twice) require satisfactory make-up work to be submitted in order to be excused.

Instructors will review the submitted make-up work and if adequate will convert the unexcused absence into an excused absence in ALF. They will provide a few sentence response in the google doc submission to provide succinct qualitative feedback on what learning the student did or did not demonstrate in their make-up work submission. Some instructors may choose instead to use a rubric score for feedback, but these are not incorporated into a student's grade for the class. Accumulating unexcused absences past the deadline of 7 days, without official approval of an extension is a policy violation and will result in sanctions ranging from Academic Warning (first time offense), Academic Probation, to Administrative Withdrawal from the course (see Student Handbook). Students will not receive a grade for any course that has outstanding unexcused absences.

The make-up work is:

1. Do all the assigned reading and pre-class work and watch the video recording of the class.
2. Answer the reflection poll question.
3. Submit pre-class work with your submission, if applicable.
4. Submit a 300-400 word document that encompasses one of the options listed below as specified by the instructor. An instructor may specify one or more of the three options (a, b, c) to be used for absences from their course at the beginning of the semester or they may require something different (see d). This will be clearly articulated by the instructor in every course at the beginning of the semester or in the case of a specific class session, prior to that class.

   a) Identify a strong use of the day's HC/LO that was applied most in the class session and propose a way to make it even stronger. This can include applying it in another course or building on it in the current course.

   b) Propose an alternative activity or reading that the student thinks would improve learning in the class including a justification for why this is an improvement—must connect the justification to the class activities.

   c) Generate a short, concise synthesis of the learning (~300 words) from the class session that the student will share with classmates and submit via the form to the instructor.

   d) Additional option specifically specified by instructor (either at the beginning of the semester, or more rarely for a specific class session). As an example, the instructor may require code to be submitted instead of options a-c. For a specific class example, if the missed class was student presentations the instructor may request the absent student to submit their presentation or a summary of it for make-up work.

In rare cases where the class video is unavailable, the student should explain how the assigned pre-class readings and resources address the HC(s) or LO(s) that are the focus of the session (in addition to submitting the pre-class work, if applicable).

Pre-Class Work Policy

During classes for which there was specific pre-class work to bring to class, students will be asked to show they have done the work by answering a related poll question, submitting their pre-class work (or some portion of it) as a poll response, or adding their pre-class work into a document in the main classroom or breakout notes. If a student has not completed the pre-class work, or has done so grossly inadequately, faculty will mark the student as absent for that class meeting. This will count as an undocumented absence (no makeup work will be required). In addition, evidence of grossly inadequate preparation for class, such as failing to complete the assigned readings as demonstrated in class discussions, may also result in an undocumented absence at the instructor's discretion.

Late/Missing Assignment Policy

Students are allowed four 24-hour personal assignment deadline extensions per course. Multiple 24-hour extensions may be applied to the same assignment, but no more than 4 total are allowed per course. This policy allows students substantial flexibility for cases in which their multiple courses have the same or similar major assignment deadlines. Assignment extensions may not be used for final projects, any other assignment due in week 15, or any substantial assignment so designated in the assignment instructions. Make sure to allow for enough time to submit the assignment by the deadline, as assignments are time-stamped and one minute late is equivalent to one personal deadline extension.

Note: Students will not receive a grade in a course unless ALL work is submitted. Failure to submit the final assignment or any other assignment so designated within the syllabus, without obtaining an approved extenuating circumstance extension or Incomplete will result in an F for the course (see Student Handbook).

Early Warning and Academic Warning Notices

Each semester has a designated grading review period ending after six weeks. At this time, each student's progress will be reviewed by faculty to determine course standing. Students not making adequate progress in the course will be contacted and placed on Early Warning. Academic Warning notices will be sent when makeup up work is not completed by the required deadline (and an extension request has not been approved), undocumented absences are exceeded, or assignment extensions are exceeded. See the Student Handbook for more details on sanctions.

Religious Holidays

Minerva Schools at KGI will use the CUC Holy Days Calendar as the official source for important religious holidays. Students wishing to miss classes to observe one or more of these holidays on this official listing will need to request such absences a minimum of two weeks in advance of the holiday, using the form at the registrar site, which does not require any additional documentation. The form may also be used to request short assignment extensions if observance of the holiday requires that the student not perform work. Make-up work will be required for all absences and must be submitted within the required 7 days after the absence (sooner is better). Students who do

not specifically request absences due to religious holidays may use one or more of their undocumented excused absences for such purposes. Absences due to religious holidays will count toward the maximum number of absences allowed per course.

Review by Academic Standards Committee

Students whose cases are referred to the Academic Standards Committee may be subject to the following consequences, depending on the circumstances:

- Academic Warning (first time offense)
- Academic Probation
- Administrative Withdrawal from the course

See the Student Handbook for further details.

Incompletes

Students with documented extenuating circumstances that prevent them completing their make-up work resulting from absences and from submitting a final project or other major assignment by its deadline, and who did not have a short-term extension approved before the deadline, must petition for an incomplete from the Academic Standards Committee by no later than Friday of week 15 using the Incomplete Petition form, available at registrar.minerva.kgi.edu. Students who are denied an incomplete (or who fail to petition for an Incomplete) and who do not turn in their assignment will receive a F for the course. Further details may be found in the Student Handbook.

Policies for Technology and Network Issues

Laptop Repair

Absences due to a student's failing to repair their personal computer following hardware or software problems will not be eligible for a documented excuse for missing class. As a courtesy, Minerva may provide loaner computers for limited periods of time, which may need to be shared with other students if demand exceeds supply. Absences due to appointments to get a laptop repaired or replaced are not eligible as documented excusable absences.

Students Taking Class at the Residence

Disruptions of class due to widespread technical or network problems (ALF is down, the internet connection at the residence is down, etc.) will not be counted as absences and the product team will work with the academic team to determine any appropriate additional follow-up.

When students are taking class in the residence, they should follow these best practices:

- Restart the computer before class and close unnecessary apps and tabs
- Use the ALF app (as opposed to Chrome)
- Connect via ethernet (turn wifi off)
- Consult tech support immediately for any problems, via live chat if possible, or via email to helpdesk@minerva.kgi.edu in the worst case.

Technical issues that prevent a student from attending class despite following the best practices above will be grounds for the absence to not be counted toward a student's 3 undocumented excusable absences. If a student is marked late, they do not need to do make-up work. If they are marked absent, the make-up work will be due within a week (see policy detailed above). A student who has followed best practices but was unable to participate in all or part of class may submit an excusable absence request via the Technical Excuse Request Form, available on the registrar site, registrar.minerva.kgi.edu. Requests must be submitted no later than 24 hours after the class in which the student experienced problems.

Students Taking Class Outside the Residence

Part of the Minerva experience is that the city is our campus and students can take class from a variety of locations. Because we cannot monitor or guarantee the quality of network connections outside the residence, students must perform due diligence when taking class from these locations. There is a larger risk of problems when taking classes on non-Minerva networks; our goal is to set an acceptable level of risk, balancing our interest in students being able to explore the city with our requirement of students being present for and participating in class.

When taking class outside the residence:

- Students must run the A/V connection test while logged in at least 10 minutes prior to class to determine the suitability of the connection. These connection test results are recorded in the database. If the A/V test indicated that the network is high bandwidth, but something goes wrong during class that prevents the student from attending, this absence will not count toward the students 3 undocumented excusable absences. The student must complete make-up for this absence to be excused and it will count toward the maximum number of absences allowed in the course.
- This type of absence excuse will only be accepted once per student per outside location.
- If a student has repeated problems that interfere with academic performance and class participation due to taking class outside the residence, the product or academic team may notify the student that no further documented excuses will be granted when taking class outside of the residence. Further problems will result in an undocumented absence.

A student who has followed best practices but was unable to participate in all or part of class may submit an

excusable absence request via the Excused Absence or Assignment Extension Request Form, available on the registrar site, registrar.minerva.kgi.edu. Requests must be submitted no later than 24 hours after the class in which the student experienced problems.

Audio-Only Policy

Technical support staff, the professor, and the ALF system will have the ability to place a student on audio-only mode during class, should the student's bandwidth not be high enough to be on video.

Honor Code

The Minerva Honor Code rests on four pillars: honesty, integrity, mutual respect, and personal responsibility. Minerva students are expected to conduct themselves with the highest levels of these qualities both inside and outside the classroom. Each student serves as an ambassador to the community for Minerva. When one student exhibits inappropriate behavior outside the university, it reflects badly on every student and the institution as a whole (the public tends not to differentiate between individuals in these situations, and attributes bad behavior to the entire student body).

Minerva students are citizens of an academic community whose members are expected to challenge themselves and one another to achieve greatness with honesty, integrity, mutual respect, and personal responsibility. Each individual who joins the Minerva community accepts this commitment in an effort to sustain and enhance personal, professional and institutional reputations.

Principles inherent in this Honor Code include:

- Students shall treat all members of the community with respect and without malicious intent to ensure that all students share equal opportunities.
- Students shall conduct themselves in a manner that upholds the principles for honesty and integrity in order to promote an environment of trust.

To assist students in understanding their responsibilities under the Honor Code, the following is a list of conduct pertaining to academic matters that violate the Honor Code. Prohibited conduct includes, but is not limited to the following:

Plagiarism

- Knowingly appropriating another's words, ideas, data or code and representing them as one's own
- Use of another's words, ideas, data or code without acknowledging the source
- Paraphrasing the words and ideas of another without clear acknowledgment of the source
- Modifying the code of another without clear acknowledgment of the source

- Falsification or fabrication of a bibliography

Cheating

- Unauthorized collaboration on assignments
- Use of unauthorized resources during class and on coursework
- Use of previously submitted coursework for alternate purposes without prior approval
- Falsification of data for a class session or assignment

Obstruction of Honor Code

- Making false statements to an Honor Code investigator

Falsification of Information

- Knowingly making false statements or submitting misleading information related to academic matters to Minerva faculty or staff
- Fabrication of data on assignments
- Submission of falsified documents, such as transcripts, applications, petitions, etc.

It is not a defense to charges of violating this Honor Code for students to claim that they have not received, read or understood this Code, or are otherwise ignorant of its provisions. A student is held to have notice of this Honor Code by enrolling at Minerva. Students must fully cooperate with investigations into potential violations of the Honor Code.

Collaboration policy

We strongly encourage students to discuss the ideas they learn in class with their classmates. Learning in groups is always beneficial. However, although discussing pre-class work or assignments is acceptable, students must produce the work products they submit on their own unless otherwise indicated in the assignment instructions. For essay assignments and research papers, student must always draft their work products independently. Unless otherwise instructed, it is acceptable to give and receive peer feedback on assignments if drafts have been completed by all parties involved in producing and reviewing the work. For all other types of assignments, students may neither look at others' work products, nor share work products with any students who are not acting in an official Minerva capacity as a peer tutor or teaching assistant unless indicated in the assignment instructions. For example, while it is acceptable to discuss different approaches to a coding assignment, it is not acceptable to look at another student's code or to share code with a student who is not acting as a peer tutor for the course. In addition to violating the Honor Code, if a student submits an assignment that is not the student's own work, it misrepresents the student's understanding of the concepts, and prevents faculty from giving beneficial feedback.

Students with Disabilities

Students with documented disabilities who would like to request accommodations are asked to submit an Accommodations for Disabilities Request form. The policy, guidelines, request form and other needed documents are found in Prepare at the beginning of each year, and on the Hub in the Student Center under Student Services. Students may request accommodations at any time during the year. The request and documentation are reviewed by our learning disability specialist, who determines whether accommodations are warranted, and contacts the student and assigned faculty members to facilitate all necessary arrangements. Please see the Student Handbook for more details.

Video Recording Policies

In order to provide formative assessment of classroom discussion contributions in context, each Minerva class session will be video recorded. These recordings will be made available to students enrolled in the recorded class section so that students can view the personalized feedback/assessments written by the professor and later review the class discussion. These recordings are not to be shared/distributed by students without the explicit written permission of the course faculty member and college dean overseeing the course.

The video recording of a class section will be made available to the students enrolled in that section shortly after the class, and will remain accessible to the students until the first day of the following academic year. Access to a recording from previous academic years can be requested for the purpose of appealing a grade or selecting video clips to include in a personal academic portfolio. Requests will be reviewed by the dean of the associated college. The Video Access Request Form is available on the registrar site, registrar.minerva.kgi.edu.

Assessment

Assessing Learning Outcomes

Letter grades are based entirely on outcome scores (HCs for Cornerstones or LOs for Cores and Concentrations) assigned using the mastery rubric template:

1-(Lacks knowledge) Does not recall or use the skill or concept when prompted or does so mostly or entirely inaccurately.

2-(Superficial knowledge) Recalls or uses the skill or concept only somewhat accurately or uses the skill or concept in a way that fails to address the relevant problems or goals.

3-(Knowledge) Accurately or effectively uses the skill or concept in a way that addresses the relevant problems or goals.

4-(Deep knowledge) Accurately or effectively uses the skill or concept in a way that addresses the relevant problems or goals and demonstrates a deep grasp of the skill or concept by analyzing, explaining, or justifying the application in a way appropriate to the given context.

5-(Profound knowledge) Uses the skill or concept in a creative and effective way, relying on a novel perspective.

Students will receive HC/LO scores for in-class verbal contributions, preparatory assessment poll responses at the beginning of each class, and for reflection poll responses at end of each class. Preparatory assessment polls test understanding of pre-class readings and other assigned materials. Reflection polls provide students with the opportunity to synthesize the in-class activities and summarize a major take-away they learned from class. Students will typically receive at least one score per class session on either one of the polls or activities. All in-class scores will have a weight of 1x. HC/LO scores for assignments will typically have a higher weighting, as specified in the Schedule of Assignments.

Grades

Final grades in all upper-level courses are based on a student's overall performance on Course Objectives (COs), which is calculated by taking the mean of all course COs. Student performance on each CO is a mean of the weighted Learning Outcome (LO) scores falling under that CO.

Final Course Grades will be determined according to the following scale:

Min score (≥)	Max Score (<)	Letter Grade
4	5	A+
3.55	4	A
3.35	3.55	A-
3.15	3.35	B+
2.95	3.15	B
2.75	2.95	B-
2.6	2.75	C+
2.5	2.6	C
2.25	2.5	C-
2	2.25	D
1	2	F

Joint Final Projects

Students taking Core and Concentration courses may propose to undertake a joint final project with another student and/or across two courses. Doing so requires the approval of supervising faculty members. Details can be found here on the Hub.

Absence policy specific to CS111A:

The breakout problem-solving sessions are a crucial aspect of this course, and the makeup work for an absence reflects this. To make-up a session of this course you must watch the video, then turn in your own solutions to the main material section and a 200 word written summary of the lesson that addresses at least one of the following questions:

1. What was the most surprising way in which the recorded group solved a problem? How would you have done it differently?
2. In what ways were a group's solution(s) incorrect, or not communicated effectively?
3. What were the most informative comments by either students or the professor during a breakout group?