NAU NORTHERN ARIZONA UNIVERSITY

School of Informatics, Computing, and Cyber Systems

CS 499/599 **Open Source Software Development** Syllabus

Term	Class No.	Section	Units	Days & Times	Room	Mode
Fall 2020			3		s	Face-to-face

Course Website

https://github.com/igorsteinmacher/CS499-OSS

https://bblearn.nau.edu/ultra/courses/_298636_1/cl/outline

Instructor(s)

Dr. Igor Steinmacher

Email: Igor.Steinmacher@nau.edu

Office: Bldg 090 #205

Office Hours: Check the Course Website

Course Purpose

This course is intended to familiarize students with the fundamentals of Open Source Software development. We aim to prepare the students for the real world, exposing them to real projects. The practical objective of the course is to teach students how to set up a new project, foster participation, and get involved in OSS projects. Specific areas addressed in this course are:

- Open source concepts and history;
- Open source communities and forges;
- Intellectual property and license;
- Version control systems;
- Communications tools;
- Issue trackers;
- Open Source management and maintenance;
- Contribution to Open Source Software projects.

Informal Explanation

In this course, the students will learn and be exposed to Open Source Software (OSS) projects. OSS projects are environments inherently collaborative, which stand on the shoulders of a community that interacts in order to build a software system. Participation in this kind of project enables students to interact with real systems, real problems, and real software development teams interested in building high quality working software. Thus, students have a unique opportunity to learn attitudes only present in real-world scenarios, which can increase not only their skills but also their self-confidence.

Course Student Learning Outcomes

Upon successful completion of this course, students will be able to demonstrate the following competencies:

- LO1: explain how a team interacts and collaborates to develop software;
- LO2: differentiate between open source and closed-source software;
- LO3: use version control system and issue tracker as development tools;
- LO4: evaluate and review code contributions;

- LO5: explain intellectual property rights, and licensing of using open source;
- LO6: participate in an OSS community, contributing code;
- LO7: judge open source project management and onboarding mechanisms; and
- LO8: critique methods and mechanisms to manage OSS communities.

Assignments / Assessments of Course Student Learning Outcomes

Methods of assessment will include:

1. Understand the foundations by reading the Cathedral and the Bazaar: This foundational book should be read by the students who will be required to write a short essay about it with specific instructions. This will exercise LO1, LO2.
2. Hands on exercises on Git and GitHub. This will exercise LO1
3. Setting up an Open Source project: In this group assignment, you will be required to set up an Open Source project of your choice (some previous assignment for another course or piece of code produced by one member of the group). By working on this assignment, students will have the opportunity to exercise LO3, LO5, LO7, and LO8. This assignment will have two parts:
    a. creating a welcoming environment, defining a proper home page for the project, and providing documentation;
    b. licensing the code properly (document justifying the choice required).
4. Code review: This assignment is a part of the previous one. Each group will be asked to review the code of another group before the submission is actually made to the main repository. The students will be required to define good practices and follow them when reviewing the code. This assignment aims to help students achieve LO3, LO4, and LO8.
5. Paper review/presentation: the students will be required to read papers about OSS communities and write essays summarizing them. They will have to present the papers to the classroom. A list of papers will be available, and the students will be required to turn *in 3 essays in total*. The students will exercise LO7 and LO8.
6. Short tests: at least 3 short tests are planned. The goal is to exercise the recent topics, specifically LO1, LO2, and LO5. These will be written tests and should last 20-30 minutes.
7. Contribution to Wikipedia: each student will be required to make a significant contribution to a Wikipedia article of their choice. This will introduce the students to the process of contributing to a crowd-sourced platform. The deliverable can either be a link to the contribution (if accepted) or a brief explanation why the contribution was not accepted by the community.
8. Contribution to Open Source project: multi-step assignment focusing on making the students have contact with real-world problems and to interact with a real community, learning practices, values and procedures of a software team. With this final assignment, the students will exercise all learning objectives.
    a. This assignment consists of, at least, the following parts: deciding the project to contribute to; choosing the task to be conducted; understanding the process of contribution of the project; explaining the architecture of the project; developing the solution for the chosen task; address the comments and revisions done by the peers and by project members; submitting the changes back to the project.
    b. There are 4 checkpoints planned, each of them will be graded accordingly.
    c. The final deliverable is composed of an informal presentation and report describing the contribution process of an existing large open source project, based on investigating the publicly available information about this project.
9. Analysis of OSS communities: *This activity aimed to link the academic literature and Open Source*. The students will be required to conduct a domain analysis of a subset of existing OSS projects, focusing on understanding how the projects design ways to create and manage the community. The students will be required to analyze the existing literature about community best practices and a set of projects (state-of-the-practice), criticize

the policies, structure, documentation, and onboarding strategies made available by the projects. The students will be required to write a research paper about their findings and propose guidelines about how to set up the projects focusing on community management.

10. Extras: the students will have the opportunity to complement some of the other assignment grades by volunteering to one of the following activities. These assignments are optional and may sum up to 6 points (6%) of the final grade, aiming to sub any other assignment, or complement any other graded assignment. To be defined

Grading System

A weighted sum of assessment components is used to calculate your final grade in the course (deadlines may change):

Assignment	Planned Deliverable	Weight
Assignments	There will be at least 5 different assignments related to the course. Details will be posted in the course website.	28%
Essays/Presentation	Essays and presentation (3 essays in total)	9%
Short tests	In class pen and paper tests (3 at least)	15%
Midterm	Midterm exam	8%
Contribution to Open Source (Checkpoint 0)	**Stand up presentation (maybe)** Decision about project and plan on steps towards contribution (Includes a document justifying the choice, based on technical and community aspects of the project)	5%
Contribution to Open Source (Checkpoint 1)	* Present the task(s) details + progress report * First impressions/guidelines availability * Architectural analysis (document)	10%
Contribution to Open Source (Checkpoint 2)	**Group + instructor presentation** Progress report Includes: Code review performed by other group (This task may be done throughout the period, depending on the flux of submissions)	10%
Contribution to Open Source (Checkpoint / Final report)	**Group + instructor presentation** **Document:** Summary of the contribution process (I recommend to be written on-the-fly to avoid forgetting things). Report with the analysis of a set of projects (similar to a domain analysis process), criticizing the policies, structure, documentation, and onboarding strategies made available by OSS projects	15%
Extras (to substitute or complement any other graded assignment)	To be announced	6%

Grades will be awarded on the following scale:

Percentage Grade	Letter Grade
90% or above	A
80% through 89%	B
70% through 79%	C
65% through 69%	D
64% or below	F

*** ***IMPORTANT:*** *64.5 is not 65; 79.5 is not 80; and so on. Please be aware that there are chances for extra credits to fulfill these "roundings."*

There is no "curve". Each student's grade is based on their own outcomes assessments and not affected by the grades of other students. Extra credit opportunities may present themselves throughout the semester and will be announced during class meetings. Mistakes in grading to happen, and students are encouraged to discuss such concerns with the instructor during office hours.

Readings and Materials

The main reading materials for this course are:

- FOGEL, Karl. Producing Open Source Software. O'Reilly. Available online: http://producingoss.com (Creative Commons)
- RAYMOND, Eric S. The Cathedral and the Bazaar. Available online: http://catb.org/esr/writings/cathedral-bazaar,1997-2009.
- Research papers that will be provided by the instructor

Other recommended sources include:

- BENKLER, Yochai. The Wealth of Networks: How Social Production Transforms Markets and Freedom. New Haven: Yale University Press. Available online: http://cyber.law.harvard.edu/wealth_of_networks, 2006
- CHACON, Scott; STRAUB, Ben. Pro Git. Ed.2. Apress, 2014. ISBN 978-1484200773. Available online: https://git-scm.com/book/en/v2
- DIBONA, Chris; OCKMAN, Sam; STONE, Mark. Open Sources: Voices from the Open Source Revolution. O'Reilly Media. 1999. ISBN 978-1565925823. Disponível online: http://www.oreilly.com/openbook/opensources/book/index.html
- MÄENPÄÄ, Hanna; MÄKINEN, Simo; KILAMO, Terhi; MIKKONEN, Tommi; MÄNNISTÖ, Tomi; RITALA, Paavo. Organizing for openness: six models for developer involvement in hybrid OSS projects. Journal of Internet Services and Applications (2018) 9: 17. https://doi.org/10.1186/s13174-018-0088-1
- St. LAURENT, Andrew M. St. Understanding Open Source and Free Software Licensing. Sebastopol: O'Reilly, 2004. Available online: http://www.oreilly.com/openbook/osfreesoft/book/index.html
- PINTSCHER, Lydia. Open Advice FOSS: What We Wish We Had Known When We Started. ISBN: 978-1-105-51493-7. Available online: http://open-advice.org/Open-Advice.pdf (Creative Commons)
- ROSEN, Lawrence. Open Source Licensing: Software Freedom and Intellectual Property Law. New Jersey: Prentice Hall, 2005.
- STALLMAN, Richard M. Free Software Free Society: selected essays of Richard M. Stallman. GNU Press. Available online: http://shop.fsf.org/product/free-software-free-society, 2002.
- STEINMACHER, Igor. Supporting newcomers to overcome the barriers to contribute to open source software projects. 2015. PhD Dissertation. Institute of Mathematics and Statistics - University of São Paulo. Available online: http://www.igor.pro.br/publica/TeseSteinmacher.pdf

Additional content will be provided from various sources, including research papers, blog posts, videos, podcasts, etc.

Class Outline and Tentative Schedule

The course topics and a tentative schedule serve as an outline for the class:

		Content
Week 1		Snow…
		Introductions (Syllabus, AIV, overall structure of the course)
Week 2		Open Source: what it is and what it is not; History of Open Source
		Assignment: The Cathedral and The Bazaar Reading and summary
Week 3		Git and GitHub
		Git and GitHub (continuing...)
Week 4		Git and GitHub / Code Review
		Continuous Integration/Testing
Week 5		INVITED TALK: Nick Vidal (OSI)
		INVITED TALK: Mairieli Wessel (Bots in Open Source)
Week 6		How to "create" an Open Source project
		Licenses and copyrights
Week 7		OSS governance / social infrastructure
		Contributing to Open Source projects
Week 8		Invited Talk (TBD)
		Mid term exam
Week 9		Spring Break
		Spring Break
Week 10		OSPOs
		Commercial Open Source Software
Week 11		Checkpoint 1
		Checkpoint 1
Week 12		Diversity in Open Source
		Code hour!
Week 13		Students 15 min Presentations: Chosen topic (group)
		Students 15 min Presentations: Chosen topic (group)
Week 14		Questions about Checkpoint 2
		Invited Talk
Week 15		Code hour!
		Final presentation
Week 16		Final presentation
		Closing and feedback

Course Policies

1. **Enrollment requirements**
   a. To participate in this course, you are required to complete NAU's Academic Integrity course. When you log in to BBLearn, you can submit proof of completion. You will not have access to the course materials and will be prevented from participating in this course until you meet this requirement.
   b. Students who have not completed the prerequisite(s) for this course, or who do not participate in the first week of class may be administratively dropped from the course.
   c. The reasons for the administrative drop in the first week also include:
      - failing to interact with course materials on BBLearn;
      - failing to join the required MS Teams communication channel;
      - failing to submit the first two graded assignments;
      - failing to click attendance.
   d. Do not rely on your instructor to drop you from the courses that you want to drop. You are responsible for changing your own course schedule.
   e. Make-up exams will be given only in the case of a documented emergency supported by appropriate documentation and with approval from the instructor. Make-up exams may be considerably different than the original exam. Make-up exams must be taken within 3 business days of the original exam except in unusual circumstances.
2. **Attendance**. You may fail this course for unexcused absences. Being in class will keep you up to date on what is happening in the course and interact with other students, maintain a positive mood, and not fall behind. Details:
   a. Attendance is required and will be recorded. Coming to class more than 15 minutes late will count as an absence. Leaving class more than 30 minutes early if work has not been completed will be counted as an absence. Excessive absences will reduce your overall grade:
      - **3** unexcused absences will result in a 5% penalty in your final grade;
      - **5** unexcused absences will result in a 15% penalty in your final grade;
      - **7** unexcused absences will result in a 25% penalty in your final grade;
      - **9** unexcused absences will result in a 35% penalty in your final grade.
   b. If you have a justifiable reason to be absent (e.g., a documented emergency, a work field trip, etc), please email me before the absence (if planned) or within **48 hours** of your absence (if unplanned) to request an excuse. Be aware that not all excuses will be accepted, and the instructor will reserve the right to decide at their discretion, based on the relevance of the excuse and supporting documentation.
   c. If you are sick (COVID-19 related or not), don't come to in-person meetings. However, even if you are absent from class due to illness or an emergency, you are still responsible for completing any assignments and finding out what happened in your absence. Some missed in-class assignments can't be delivered after the class, but you can use the extra credit opportunities to make up those missed points.
   d. If you face technical issues to click attendance, you must contact your instructor before leaving the classroom for the day. Your attendance will not be fixed after class time. Don't ask!
   e. For exams, you must be in class, seated, and ready before the test's starting time. The door closes exactly at test time, and you cannot enter the room after that. Please, plan accordingly!

f. If you click attendance and you are not in the classroom, you will respond for Academic Integrity Violation for **Fabrication/Fraud** (see the policy here).

g. Please note that if you stop attending class, you will not automatically be withdrawn from the course. If your name appears on the roster at the end of the semester, but you have stopped attending class/online assignments, you will earn a grade that reflects all missed work. For University policies, see https://nau.edu/student-life/policies/.

h. Snow days: under certain conditions, including weather-related conditions, it may become necessary to cancel classes or close the campus(es) of NAU. The NAU President or their designee may declare a cancellation of classes and/or partial or full university closure. To check the status, call the NAU Now Line at (928) 523-0007 or sign-up for NAU alerts at: https://nau.edu/emergency-management/alert/. In such situations, the instructor may opt to hold classes fully online. If this is the case, an announcement will be posted on MS Teams.

3. **Workload:** As we will have extensive practice, reserve time in your schedule for this course. Per the University Academic Contact Hour Policy, it is expected that the students do a minimum of 6 hours of work per week additionally to the class time. A piece of advice: **Stay on task**. As you have noticed there are a lot of assignments to keep track of; write them all down and put them in your calendar. This will help you to keep track of what is due.
4. **Assignment Sharing*:*** The instructor may share anonymized student assignments (or parts of them) with the class for didactic purposes. If you don't want that something that you have produced to be shared with the rest of the class, state clearly in the respective deliverable.
5. **Interventions*:*** We have limited time. I will push, challenge, and question you hoping you will quickly learn. We hope you can recognize that the comments aren't personal, but part of the process. I also expect you to question me, challenge my point of view if you disagree, and engage in a real dialog with the teaching team. This approach may seem harsh or abrupt, but it is all part of our wanting you to learn to challenge yourselves quickly and objectively and to appreciate that as professionals, you need to learn and evolve faster than you ever imagined possible.
6. **Required tools**
   a. BBLearn: we will use BB Learn (http://bblearn.nau.edu) just as a . Make sure to log in at least three times a week (preferably before class time) to check for new content and activities. Due dates for quizzes and assignments are posted on BBLearn. Please check BBLearn frequently for updates.
   b. MS Teams: we will use the MS Teams channel for announcements, messages, and other asynchronous interactions. I suggest you install MS Teams on your mobile device and activate notifications for our channel, so you don't miss any important and timely information. Please use the join link available on BBLearn. See the Course Policies for how to use this channel.
   c. GitHub: we will use GitHub as our repository of lecture notes, assignments, and way to follow up the schedule. If you do not have a GitHub account, please create right away.
   d. iClicker: we will use iClicker for attendance. Please use the join link available on BBLearn.
7. **Make-up and late work:**
   a. Late work will **not be accepted** unless formally approved PREVIOUSLY by the instructor. This is a very strict policy.

b. Late is whatever BBLearn tags as late. Assignments must be posted BEFORE (not by) the due date and time. For example, if BBLearn indicates 11:59 PM as the due time, that means before 11:59; 11:59:01 PM will be already marked as late and won't be accepted.
c. Make-up exams or short tests will be given only in the case of a documented emergency or health issue supported by appropriate documentation and with approval from the instructor. Make-up exams may be considerably different from the original exam. Make-up exams must be taken within 3 business days of the original exam except in unusual circumstances.
d. Since many of the assignments for this course will be submitted online, you may face technical issues with your computer, internet connection, or any software that we use. It is your responsibility to resolve technical issues as soon as they occur. On-campus computer labs and Cline Library are suitable venues for completing assignments and participating in the course, should your personal computer impede internet access. Plan your time accordingly, so that you can still submit your coursework on time in case of technical issues.
e. The Student Technology Center (STC) https://nau.edu/its/services/stc/ is available 24/7 during the fall and spring semesters, and STC staff will attempt to answer questions immediately. Contact the STC via e-mail: ask-stc@nau.edu or Call (928) 523-9294 (in Flagstaff); 1-888-520-7215 (Toll-Free).
f. if warranted by the scope of the infraction. More severe consequences can be applied by the university, which may result in expulsion from NAU. Just don't do it!

8. Class Conduct

a. Students are required to be respectful of their classmates and instructor. Students must engage in the educational process in a manner that does not breach the peace, interfere with normal class activities, or violate the rights of others. Disruptive behavior will not be tolerated. For student classroom disruption policy see https://nau.edu/university-policy-library/disruptive-behavior/. While we certainly hope that things never escalate to this point, the instructor is empowered to deal with disruptive behavior in a variety of ways: the simplest is requesting that the student cease the disruptive behavior in question, but this can escalate to involving the college's Dean, the university's Office of Student Life, and Police Department. For all the pertinent details, please refer to NAU's Student Handbook (http://nau.edu/Student-Life/Student-Handbook/). Examples of disruptive behavior include, but are not limited to: showing up late to class; preparing to leave before the instructor has dismissed the class; maintaining conversations with neighboring classmates at inappropriate times; speaking without being recognized; asking questions or making comments not related to the course; being obviously disengaged or disinterested in the subject matter; refusing to comply with an instructor's request; making calls or holding text-message conversations using your cellphone; disrespectful or insulting speech toward the instructor or classmates; taking naps during class; engaging in any behavior that verbally or physically threatens another; and messing up with shared documents. All that said: Constructive discussion at times permitted by the instructor is highly encouraged! These rules of conduct also apply to any online interaction used in the course (MS Teams and/or email). Moreover, everyone is welcome to this course! Any discrimination, harassment, or retaliation act based on race, religion, country of origin, sexual orientation, or gender will be reported to the appropriate university channels.
b. **Electronic Devices:** you will need a computer during some classes. A smartphone is also allowed but not the best choice as navigating BB Learn and using some tools with a smartphone is not easy. Nevertheless,

students are not allowed to use their devices during class time for any other purposes than participating in the class. Please be courteous to your classmates and me by silencing your cell phones and your computer notifications. I reserve the right to ask you to stop using any device if I feel its use is bothersome or distracting to the class. I devote 100% of my attention to providing a high-quality lecture; please respect this by devoting 100% of your attention to listening and participating. If the class is boring, please send suggestions for improving it. During in-person exams, no electronic device use is allowed; this includes music players with headphones.

9. Grading

a. Rounding-up Grades: the grade you receive will be the grade you earn. It is NOT negotiable. Factors such as GPA, academic standing (probation, exclusion), and funding cannot be considered in determining the course grade. **Please don't ask.** In other words, I do not negotiate decimal points. A 69.6% is a D, not a C. Rounding up discredits the higher grade for the students whose efforts earned it without adjustments. Pay attention to possible extra credit activities, which can be used to make up points missed in your assignments.

b. Grading Adjustments: there is no "curve;" your grade is completely up to you and is not affected by the grades of your classmates.

c. Grading Review: if you feel a mistake has been made in grading your assignment, please address your concerns by e-mail, MS Teams, and/or during office hours. I will gladly explain the reasoning for deductions and correct any mistakes. However, any corrections must be discussed and made within a week of the assignment or exam's return date.

d. Grade Calculation: grades for each assignment will be entered in BBLearn but your final grade will be calculated using the **Grading System** described in this syllabus and then entered in LOUIE. Your final course grade will **not** necessarily appear in BBLearn or any other mean. The "points possible" that BBLearn shows are possibly incorrect. Please check LOUIE for your final grade. Use the described grading system to track your progress.

e. Grade review must be requested **within 1 week** of the posted date, either **in-person** (during office hours) or **via email**. After that deadline, the grade posted on BBLearn is final and won't be revised.

f. **Extra credits:** extra credit activities may be offered at the instructor's discretion. However, they will not cover entire missed assignments and they will not be offered on an individual basis. Don't count on them to pass!

10. Academic Integrity Violation

a. Cheating and plagiarism are strictly prohibited. All academic integrity violations are treated seriously.

b. All work you submit for grading must be your own. You are encouraged to discuss the intellectual aspects of assignments with other class participants. However, each student is responsible for formulating solutions independently and in their own words.

c. Academic integrity violations may result in penalties including, but not limited to, a zero on the assignment, a failing grade in the class, or expulsion from NAU.

d. Plagiarism/cheating includes, but is not limited to:

- Submitting another person's assignment as your own;

- Modifying another person's assignment and submitting it as your own;
- Finding solutions on the internet and submitting them as your own;
- Modifying solutions from the internet and submitting them as your own.

e. In cases of group assignments, all members of the group will be penalized in case of academic integrity violation since group work in this class does not assume a separation of work. Groups are expected to work together on the solutions.

f. If you violate academic integrity in **homework** and/or **quizzes**, the following penalties will apply for this course:
   - First occurrence: **a grade of zero** in the particular assignment;
   - Second occurrence: **a failing grade** in the course.

g. If you violate academic integrity in a **test or exam**, you will receive a **failing grade** in the course.

h. As the instructor, I reserve the right to recommend a more severe consequence for the first infraction if warranted by the scope of the infraction. More severe consequences can be applied by the university, which may result in expulsion from NAU. Just don't do it!

11. Communication

a. Communications can be directed to the instructor or course's TA. Use the following general guidelines to decide whom to contact first:
   - **Go to the TA if:**
     - you have questions about the subject discussed in class;
     - you have questions on assignments;
     - you need assistance with tool installation;
     - you need to review content for exams;
     - you have general questions about the syllabus;
     - other topics related to the course subjects and/or assignments.
   - **Go to the course instructor if:**
     - you were mentored by the TA's but your questions remain;
     - you have questions about the grading system;
     - you want to request a grade review;
     - you need to discuss integrity issues;
     - you want to request an excuse for a justified absence;
     - you found errors/typos/inconsistencies in the course materials;
     - other topics related to the grading or personal issues, as well as careers, research, and topics related (even loosely) to this course.

b. <u>During office hours:</u> My office's door will be open! Visiting the instructor(s) during office hours is highly encouraged! Please note the following:
   - No appointment is required during office hours, please knock! I'll be there for you!
   - Be aware that other students may be waiting for their turn; please communicate efficiently, so everyone has their chance to be assisted. Bring your questions, materials, or any other required resources ready.

- If you can't attend office hours in person, ping me on MS Teams, and I'll put you in line (considering the in-person and remote students already waiting for me) and I call you back when it is your turn.
- If you have a conflicting schedule and cannot attend the office hours (justifiable reasons would be other classes or work shifts), you may **request an appointment via email** for a different time. I'll do my best to accommodate your needs.

c. Outside office hours:
   - Please do not come to my office outside office hours *without an appointment*. I will not be able to give you the necessary attention. Thanks for understanding.
   - This course has two remote communication tools that can be handy if you need to interact with the course instructor and/or TA outside office hours: **email** and **MS Teams channels.** Please check the following bullets for when it is best to use each tool.
   - My class schedule this semester is very tight and I cannot help you after class time is over. Please come to office hours or use remote communication instead!

d. Email is the preferred tool when your inquiry requires action from the instructor/TA or it is important to keep documentation of that interaction for future records. For example, grade review, code debugging, integrity issues, health issues, excused absences, exam make up etc. Email to the instructor and teaching assistants must be respectful and professional. Specifically, all emails should:
   - **Contain the prefix "[CS499/599]" in the subject** so that the message can be easily identified.
   - Contain a salutation, (for example, "Dear Igor/Dear Dr. Steinmacher/Hi Igor/Hello Dr. Steinmacher" if we are on particularly friendly terms)
   - Contain a closing, (for example, "Best regards,")
   - **Contain your full name**
   - Use complete sentences and correct grammar including correct usage of lowercase and uppercase letters. Composing emails on a mobile device is **not** an excuse for poor writing.
   - The body of your message should also be respectful and explain the full context of the query.

   Although email will typically be answered quickly, you should allow up to three (3) business days for a response; but if it takes more than 3 days, ping me again – it may have been lost in the shuffle, sent to spam, etc…

e. **Messages on the MS Teams Discussion channel** (public channel for all the class participants) will likely be replied to in less than 24 hours. The discussion in this channel should not include private subjects (such as your grades or concerns about the course). Print screens or excerpts of your solutions are not allowed in this channel due to Academic Integrity policies. All the students are encouraged to reply to their colleagues on this channel. If you know the answer, go ahead and reply! We can all help each other!

f. **Private messages to the instructor on MS Teams** will likely be replied to in less than 24 hours unless your inquiry requires extra work from my side (review grades, debug code, etc.). If your inquiry requires action from me, I suggest emailing instead. Use private messages only for private communication so that I can quickly reply even if I am out of my work laptop. Do not use MS Teams to request exam make ups, report health issues, or excuse an absence.

g. You should not expect communications to be answered on weekends, holidays, or out of business hours (before 8 AM or after 6 PM). It is unlikely that I can help you to finish your homework due Monday morning if you ask for help on Friday night! Please, plan accordingly!
h. Any communication channel will be constantly monitored, and I will do my best to answer you in a timely manner. However, there are situations in which one tool is more effective than the other. Choose your communication tool wisely, and please don't overload all of them with repeated messages. This may slow communication for everyone.

12. Miscellaneous

a. The Academic Success Centers offer free tutoring and academic support to improve your study skills and review course material in a number of engineering and math courses. You can schedule an appointment by visiting http://nau.edu/asc, calling the Academic Success Center at 928-523-5524, or swinging by Dubois Center room 140.

Appendix A. Syllabus Policy Statements

ACADEMIC INTEGRITY

NAU expects every student to firmly adhere to a strong ethical code of academic integrity in all their scholarly pursuits. The primary attributes of academic integrity are honesty, trustworthiness, fairness, and responsibility. As a student, you are expected to submit original work while giving proper credit to other people's ideas or contributions. Acting with academic integrity means completing your assignments independently while truthfully acknowledging all sources of information, or collaboration with others when appropriate. When you submit your work, you are implicitly declaring that the work is your own. Academic integrity is expected not only during formal coursework, but in all your relationships or interactions that are connected to the educational enterprise. All forms of academic deceit such as plagiarism, cheating, collusion, falsification or fabrication of results or records, permitting your work to be submitted by another, or inappropriately recycling your own work from one class to another, constitute academic misconduct that may result in serious disciplinary consequences. All students and faculty members are responsible for reporting suspected instances of academic misconduct. All students are encouraged to complete NAU's online academic integrity workshop available in the E-Learning Center and should review the full *Academic Integrity* policy available at https://policy.nau.edu/policy/policy.aspx?num=100601.

COURSE TIME COMMITMENT

Pursuant to Arizona Board of Regents guidance (ABOR Policy 2-224, *Academic Credit*), each unit of credit requires a minimum of 45 hours of work by students, including but not limited to, class time, preparation, homework, and studying. For example, for a 3-credit course a student should expect to work at least 8.5 hours each week in a 16-week session and a minimum of 33 hours per week for a 3-credit course in a 4-week session.

DISRUPTIVE BEHAVIOR

Membership in NAU's academic community entails a special obligation to maintain class environments that are conductive to learning, whether instruction is taking place in the classroom, a laboratory or clinical setting, during course-related fieldwork, or online. Students have the obligation to engage in the educational process in a manner that does not interfere with normal class activities or violate the rights of others. Instructors have the authority and responsibility to address disruptive behavior that interferes with student learning, which can include the involuntary withdrawal of a student from a course with a grade of "W". For additional information, see NAU's *Disruptive Behavior in an Instructional Setting* policy at https://nau.edu/university-policy-library/disruptive-behavior.

NONDISCRIMINATION AND ANTI-HARASSMENT

NAU prohibits discrimination and harassment based on sex, gender, gender identity, race, color, age, national origin, religion, sexual orientation, disability, or veteran status. Due to potentially unethical consequences, certain consensual amorous or sexual relationships between faculty and students are also prohibited as set forth in the *Consensual Romantic and Sexual Relationships* policy. The Equity and Access Office (EAO) responds to complaints regarding discrimination and harassment that fall under NAU's *Nondiscrimination and Anti-Harassment* policy. EAO also assists with religious accommodations. For additional information about nondiscrimination or anti-harassment or to file a complaint, contact EAO located in Old Main (building 10), Room 113, PO Box 4083, Flagstaff, AZ 86011, or by phone at 928-523-3312 (TTY: 928-523-1006), fax at 928-523-9977, email at equityandaccess@nau.edu, or visit the EAO website at https://nau.edu/equity-and-access.

TITLE IX

Title IX is the primary federal law that prohibits discrimination on the basis of sex or gender in educational programs or activities. Sex discrimination for this purpose includes sexual harassment, sexual assault or relationship violence, and stalking (including cyber-stalking). Title IX requires that universities appoint a "Title IX Coordinator" to monitor the institution's compliance with this important civil rights law. NAU's Title IX Coordinator is Elyce C. Morris. The Title IX Coordinator is available to meet with any student to discuss any Title IX issue or concern. You may contact the Title IX Coordinator by phone at 928-523-3515, by fax at 928-523-0640, or by email at elyce.morris@nau.edu. In furtherance of its Title IX obligations, NAU will promptly investigate and equitably resolve all reports of sex or gender-based discrimination, harassment, or sexual misconduct and will eliminate any hostile environment as defined by law. Additional important information about Title IX and related student resources, including how to request immediate help or confidential support following an act of sexual violence, is available at https://in.nau.edu/title-ix.

ACCESSIBILITY

Professional disability specialists are available at Disability Resources to facilitate a range of academic support services and accommodations for students with disabilities. If you have a documented disability, you can request assistance by contacting Disability Resources at 928-523-8773 (voice), 928-523-6906 (TTY), 928-523-8747 (fax), or dr@nau.edu (e-mail). Once eligibility has been determined, students register with Disability Resources every semester to activate their approved accommodations. Although a student may request an accommodation at any time, it is best to initiate the application process at least four weeks before a student wishes to receive an accommodation. Students may begin the accommodation process by submitting a self-identification form online at https://nau.edu/disability-resources/student-eligibility-process or by contacting Disability Resources. The Director of Disability Resources, Jamie Axelrod, serves as NAU's Americans with Disabilities Act Coordinator and Section 504 Compliance Officer. He can be reached at jamie.axelrod@nau.edu.

RESPONSIBLE CONDUCT OF RESEARCH

Students who engage in research at NAU must receive appropriate Responsible Conduct of Research (RCR) training. This instruction is designed to help ensure proper awareness and application of well-established professional norms and ethical principles related to the performance of all scientific research activities. More information regarding RCR training is available at https://nau.edu/research/compliance/research-integrity.

MISCONDUCT IN RESEARCH

As noted, NAU expects every student to firmly adhere to a strong code of academic integrity in all their scholarly pursuits. This includes avoiding fabrication, falsification, or plagiarism when conducting research or reporting research results. Engaging in research misconduct may result in serious disciplinary consequences. Students must also report any suspected or actual instances of research misconduct of which they become aware. Allegations of

research misconduct should be reported to your instructor or the University's Research Integrity Officer, Dr. David Faguy, who can be reached at david.faguy@nau.edu or 928-523-6117. More information about misconduct in research is available at https://nau.edu/university-policy-library/misconduct-in-research.

SENSITIVE COURSE MATERIALS

University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In their college studies, students can expect to encounter and to critically appraise materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.