







DSC 494/598 Introduction to Rhino

Online Credits: 3

Instructor Name: Evan Emery Email: evan.emery@asu.edu

Office Hours: Office hours will be offered via zoom each week. Time will be determined by instructor

Office Zoom URL: https://asu.zoom.us/j/5763467863

Course Description:

DSC 494: Intro to Rhino

Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. Introduction to the use of the Rhino 3D modeling software for architectural applications.

Enrollment Requirements:

Degree- or nondegree-seeking graduate or undergraduate student

Course Objectives:

Introduce the fundamentals of using the Rhino 3d digital modeling and rendering software for architectural applications.

Student Learning Outcomes:

By the end of the course the students achieve a beginner level of competency in using the RHINO 3D modeling software for architecturally focused design and modeling tasks. In addition to a technical competency the use of the program's tools, the course conveys techniques and strategies for using Rhino as part of a formally creative design process. This competency will consist of:

- Understanding and effective use of the program interface
- Construction of linear and curvilinear line-based objects using a variety of tools and techniques available in Rhino
- Construction and editing of planar objects using a variety of tools and techniques available in Rhino
- Construction and editing of non-planar and complex curvilinear objects using a variety of tools and techniques available in Rhino

- Modification of objects using various modification tools and techniques such as: move, copy, skew, rotate, scale, distort, moving points, moving faces
- Create complex geometric objects through orchestrating the interaction multiple objects which
 includes Boolean operations (unioning objects, subtracting objects from one another,
 intersecting objects), splitting, trimming, blending.
- Creation, editing and use of camera objects in creating model views
- Ability to employ and edit the various display modes available in Rhino to control the depiction of the model in rendered views
- Ability to utilize the make2d command to export 2d line versions of 3d models as part of a process of creating diagrams.
- Develop effective strategies to produce complex 3D forms through the application of the tools and techniques available in Rhino
- Apply their understanding of the tools and techniques available in Rhino to as part of an architecturally and spatially creative design process.

Course delivery format

DSC 494 is offered as an online course designed to be taken fully online with recorded lectures, software demonstrations and other content which you can watch and utilize on your own schedule. All course content will be available on the class Canvas site. In this online format there are no in-person or Zoom based class meetings. However, I will be available to address your questions and work with you remotely via, email or by scheduling individual or group Zoom meetings.

Attending these Sync/Zoom based support sessions is not required. The instructor will work with the class to coordinate times for these sessions as the course progresses. You can find out more information about ASU Sync for students here, https://provost.asu.edu/sync/students

Should you wish to access any of the live ASU sync/zoom based help sessions you can do so by going to myASU and click the Attend via Sync button next to this class on your schedule. The "Attend via Sync" button in the students' myASU schedule will direct to the instructor's PMI. Again, this course will not have scheduled in-person or live Sync based classes as the content is being delivered in a fully online format.

Course Access

Your ASU courses can be accessed by both <u>my.asu.edu</u> and <u>myasucourses.asu.edu</u>; bookmark both in the event that one site is down.

Technology Requirements

Computers in the School of Design computing labs have all the necessary programs installed and available for use.

If you plan to work from a personal computer, the Rhino modeling software is freely available to students. I will be providing additional information on accessing Rhino on campus or remotely via our course Canvas site. If you will be working from a personal computer, you will need to have permissions to install software that will run directly on that computer as Rhino is not a "cloud" based software. The software is compatible with Apple and Windows based computers; however, it is not compatible with iPads or Chromebooks.

Canvas and the video based course content can be accessed anywhere with the proper technology. We encourage you to use a PC or Apple laptop or desktop equipped with a built-in or standalone webcam. You will need an internet connection that can effectively stream video content. It is recommended that your internet download speed is at least 5.0 mbps. You can use this <u>tool to test your current connection</u>.

iPads or Chromebooks are suitable for accessing course content, but will not work for the course assignments since the software that is the focus of the course "Rhino" is not compatible with either iPads or Chromebooks.

If you are not able to personally finance the equipment you need to attend class via ASU Sync, ASU has a laptop and WiFi hotspot checkout program available through ASU Library.

Who is eligible?

- Any currently enrolled ASU student is eligible to checkout a laptop. The current availability of laptops can be found here.
- Borrowing and returning laptop rules
- Laptops are lent on a first-come, first-serve basis, and cannot be reserved in advance. They can be returned at any time, but will be due at the conclusion of the spring 2021 semester.
- Rentals are limited to one laptop per student.
- Laptops are available for checkout at the following libraries on all four campuses. (<u>Please check online for current library hours</u>)
 - Downtown Phoenix campus Library
 - o Polytechnic campus Library
 - o Tempe: Hayden and Noble Libraries
 - West campus: Fletcher Library
- Return laptops to any ASU Library Information Desk (not at the drop box or other location)
- Refer to ASU Library Computer Use Policy and ASU Computer, Internet, and Electronic Communications Policy.
- Borrowers are responsible for loss, damage, and theft of the laptop while in their possession. Borrowers should verify the condition of the laptop at the time of check-out and upon check-in.

Statements about Recording Zoom classes

The contents of this course, including lectures and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling, or distributing course content or notes taken during the conduct of the course. Any recording of class sessions by students is prohibited, except as part of an accommodation approved by the Student Accessibility and Inclusive Learning Services Links to an external site.

Additional Requirements:

This course requires the following technologies:

- Web browsers (<u>Chrome, Mozilla Firefox</u>, or <u>Safari</u>)
- Adobe Acrobat Reader (free)
- Webcam, microphone, headset/earbuds, and speaker
- Reliable broadband internet connection (DSL or cable) to stream videos.
- Rhino 3d Modeler free access provided by the School of Design

Classroom Technology

• The course will be delivered in a fully online format without required and scheduled in-person or zoom based class meetings.

Student Success

To be successful:

- check the course daily
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track
- access ASU Student Resources

Access to the Rhino version 7 modeling program is required for the course. Rhino is available in the School of Design computer labs on both the mac and windows operating system platforms. The course will be delivered via Canvas.

textbooks: no textbook is required

readings or other resources

Video tutorials will be made available throughout the semester as a critical resource for effectively completing the course. Additional resources such as PDF or outside references will be made available as the class proceeds. All materials will be provided or will be freely available online.

materials/supplies

No other materials or supplies are required.

Assignments:



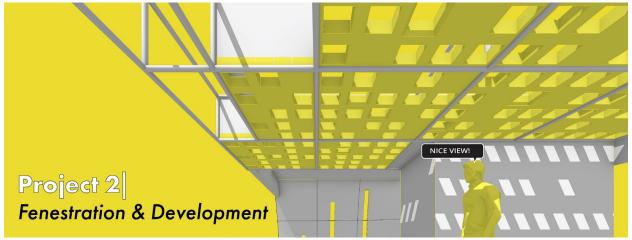
Project 1 (Form[al] Dictation)

Grade Percentage: 40% Duration: 3 weeks

Overview:

An introduction to Rhino's fundamental tools for massing and form development

This assignment introduces the fundamentals of working with Rhino – its interface, and its core suit of tools for constructing and editing geometry. Form generation and manipulation tools will be utilized to design a singular architectural experience for one inhabitant. This small-scale architectural object will serve as a means for ingress, vertical elevation, and reorientation toward a specified view. The simple design parameters allow for students to focus on formal exploration to leverage Rhino's surface and solids modeling tools. Detailed design parameters, guided video tutorial, and submission guidelines will be outlined in the Canvas assignment page.



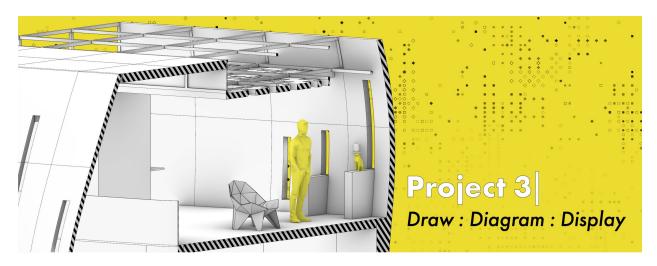
Project 2 (Fenestration Development)

Grade Percentage: 30% Duration: 2 weeks

Overview:

An introduction to Rhino's detailing tools for more complex assemblies and geometry

The assignment builds upon the student's previous design from projects 1 to leverage Rhinos tools for complex assembly and form generation. Students will design objects of formal intervention with the intent of controlling light and view within the space. Designs can be additive or subtractive, as to serve the overall experiential narrative. The project also introduces rhinos' visualization techniques for abstract rendering for light and form analysis.



Project 3 (Draw: Diagram: Display)

Grade Percentage: 30% Duration: 2 weeks

Overview:

An introduction to Rhino's representational techniques

In this project we explore representation and visualization tools within rhino to visualize our designs from the previous assignments. We will develop drawings, diagrams, and visualizations to present representationally interesting and concise project documentation. Representation techniques will serve as part of the student's design language to encourage experimental presentations.

Grading

Students will be evaluated on their ability to employ the program and tools to effectively meet the stated objectives of each assignment.

"A" exceeds expectations

Exceeds expectations by being fully complete, meeting all project requirements and objectives exceptionally well and without deficiencies.

"B" meets expectations

Meets most of the project objectives and requirements with some modest deficiencies in completeness and/or quality of execution, however, is in line with expectations of successful project understanding and completion.

"C" under-achieves expectations

Meets many of the project objectives and requirements, but with some more pronounced deficiencies in completeness and/or quality of execution, and as a consequence under-achieves project expectations.

"D" does not meet most expectations

Work is substantially deficient in terms of completeness and/or in meeting the stated objectives of the project.

E","F" fails to meet minimum requirements

Work is substantially incomplete and/or fails to meet most of the project requirements or expectations.

Assignment weighting

The assignments and their weights in determining the final grade are:

Project 1 40% Project 2 30% Project 3 30%

Extra Credit

Extra Credit is not offered in DSC 494/598

Late Work

Late work will be accepted, but will be incur a grade penalty as follows:

Work that is up to 24 hours late will not receive a grade deduction.

Work that is 24-72 late will have a grade deduction of 5%.

Work more than 72 hours late will incur a 10 point grade deduction.

Notify the instructor BEFORE an assignment is due if an urgent situation arises and you are unable to submit the assignment on time.

Re-submissions

Students will be allowed to resubmit any project from the semester to have their work re-evaluated. If a student underperforms on an assignment, this provides an opportunity for them to continue advancing their skills, improve the quality of work and resubmit that work for re-evaluation. If a student resubmits work the final grade will be an average of their original project grade (10% weight) and the grade for the resubmitted work (90% weight). In order to re-submit an assignment, the student has to have submitted the assignment by the original due date and that original assignment must have been at least 50% complete. The level of completion will be determined at the discretion of the instructor.

Grade Appeals

ASU has formal and informal channels to appeal a grade. If you wish to appeal any grading decisions, please see http://catalog.asu.edu/appeal.

Grade of Incomplete

A mark of "I" (incomplete) is given by the instructor when you have completed most of the course and are otherwise doing acceptable work but are unable to complete the course because of illness or other conditions beyond your control. You are required to arrange with the instructor for the completion of the course requirements. The arrangement must be recorded on the Request for Grade of Incomplete form (http://students.asu.edu/forms/incomplete-grade-request).

Grade Scale

98-100	A+
93-97	Α
90-92	A-
88-89	B+
83-87	В
80-82	B-
78-79	C+
70-77	С
60-69	D
0-59	E

All grades will be rounded to the nearest whole number. Grades that are on the border of a letter grade will be rounded up to the next letter grade. Grades will only be raised by 0.5%.

Y Grade

Y (Satisfactory) grade is an option for all classes and does not impact DARS requirements, although it is NOT included in GPA. If students will have the option for a Y grade in this course, then please include the conditions and processes they should follow to request a Y grade.

Incomplete Policy:

The incomplete is not a routine process for successful completion of coursework. Rather, it is a limited academic exception intended to address situations where a student who has been doing acceptable work has experienced exceptional extenuating circumstances beyond the student's control preventing their timely completion of the course. In evaluating requests for incompletes, I not only evaluate the nature of the stated extenuating circumstances and whether such circumstances were beyond the student's control, but also whether the student's record of performance in the class demonstrates the likelihood for successful completion of the remaining coursework. You can read more about the incomplete policy at: https://www.asu.edu/aad/manuals/ssm/ssm203-09.html

Subject to change:

The instructor reserves the right to change portions of this syllabus (assignments, deadlines etc.) by verbal instructions during scheduled class time. The student is responsible for noting changes and acting accordingly. Grading and absence policies are not subject to change.

Course Itinerary (Schedule):

As stated previously this course is being delivered in an asynchronous online format where all course materials are available for students to access online on their own schedule i.e., there are no scheduled or required class meetings either in person or via zoom video conferencing. It will be possible to complete the prior project early and move on to the next project at the students own pace. Project due dates are provided, and students are expected to turn in each project by the stated due date. Completed projects may be submitted at any time prior to the stated due date. The course and assignments are designed to progress sequentially, and students are required to complete the projects sequentially. Project 1 introduces the essential first concepts, tools and techniques that will be essential for project 2. Project 2, in turn, introduces tools, techniques and concepts that are essential for project 3. There will be no final exam.

Course Itinerary (Schedule):

Project One 40% (3 weeks) begin: Thursday, 8/17 due: Thursday, 9/7

<u>Project Two 30% (2 weeks)</u> begin: Thursday, 9/7 or before

due: Thursday, 9/21

<u>Project Three 30% (2 weeks)</u> begin: Thursday, 9/21 or before

due: Thursday, 10/5

POLICIES & PROCEEDURES

Communication Expectations (Netiquette)

Learning takes place best when a safe environment is established. Students enrolled in this course have a responsibility to support an environment that nurtures individual and group differences and encourages engaged, honest discussions. Doing so will effectively contribute to our own and others intellectual and personal growth and development. We welcome disagreements in the tolerant spirit of academic discourse, but please remember to be respectful of others' viewpoints, whether you agree with them or not. The following are some guidelines to consider when engaging in online discussion and discourse:

- Be kind and polite. Be mindful of your tone and do not make fun of another person for any reason.
- **Be respectful**. Being part of an academic community means being exposed to diverse perspectives and viewpoints. Be respectful in all situations and in your critiques. If you wouldn't say it face to face, don't say it online
- **Be wary of sarcasm.** In person, sarcastic comments can be funny and break up a tense situation. Online, it's hard to tell the difference between when someone is being sarcastic and when someone is genuinely being rude.
- **Avoid stereotyping.** Just because someone holds view X, and some people you know of who hold view X also hold view Y, doesn't mean that holding view X means holding view Y.
- Use proper grammar and spelling. Typos and basic spelling mistakes will happen, but if it's detracting from you message, it can be difficult to figure out what you mean. Also, you should avoid using all caps as this can imply shouting in the online environment.

Attendance Policy:

DSC 494 is being offered as an online based course without scheduled in-person class meetings or required ASU Sync/Zoom based course meetings. All course content and materials will be available online via the course Canvas site.

Excused absences related to religious observances/practices in accord with ACD 304–04, "Accommodation for Religious Practices." Students may be excused for the observance of religious holidays. Students should notify the instructor at the beginning of the semester about the need to be absent from class due to religious observances. Students will be responsible for materials covered during their absence and should consult with the instructor to arrange reasonable accommodation for missed exams or other required assignments.

Excused absences related to university sanctioned activities in accord with <u>ACD 304–02</u>, "Missed Classes Due to University-Sanctioned Activities." Students required to miss classes due to university sanctioned activities will not be counted absent. However, absence from class or examinations due to university-sanctioned activities does not relieve students from responsibility for any part of the course work required during the period of the absence. Students should inform the instructor early in the semester of upcoming scheduled absences and immediately upon learning of unscheduled required

class absences. Reasonable accommodation to make up missed exams or other required assignments will be made. Consult the instructor BEFORE the absence to arrange for this accommodation.

Line-of-duty absence and missed assignment policy:

A student who is a member of the National Guard, Reserve, or other U.S. Armed Forces branch who misses classes, assignments or examinations due to line-of-duty responsibilities shall have the opportunity to make up the coursework in accordance with <u>SSM 201-18 Accommodating Active Duty Military Personnel</u>. This accommodation also applies to spouses who are the guardian of minor children during line-of -duty activities. This policy does not excuse students from course responsibilities during their absence. Students should first notify the Pat Tillman Veterans Center of their activation and then the instructor to discuss options.

Instructor Absence Policy:

There will be no scheduled in-person or ASU sync based course meetings. All course material and content will be available online via the course Canvas site.

Academic Integrity and Student Honor Code:

The ASU student honor code affirms the commitment of ASU to uphold the values, principles, and ethics of academic integrity. All students are expected follow the code which states:

"We, the students of Arizona State University, have adopted this code as an affirmation of our commitment to academic integrity and our participation in ethical education. We embrace the duty to uphold ASU's Honor Code, and in light of that duty, We promise to refrain from academic dishonesty. We pledge to act with integrity and honesty to promote these values among our peers. We agree to always abide by the <u>Sun Devil Way</u> and uphold the values of the <u>New American University</u>."

Every student is expected to produce his/her original, independent work. Any student whose work indicates a violation of the ASU Academic Integrity Policy including cheating, plagiarism, and dishonesty will be subject to disciplinary action. Plagiarism is defined as deliberately passing off someone else's words or ideas as your own. All necessary and appropriate sanctions will be issued to all parties involved with plagiarizing any and all course work. Plagiarism and any other form of academic dishonesty that is in violation with the Student Code of Conduct will not be tolerated. Arizona State University and the Herberger Institute for Design and the Arts expect the highest standards of academic integrity from all students. Failure to meet these standards may result in suspension or expulsion from the university or other sanctions as specified in the ASU Student Academic Integrity Policy (http://provost.asu.edu/academicintegrity), "[e]ach student must act with honesty and integrity, and must respect the rights of others in carrying out all academic assignments." This policy also defines academic dishonesty and sets a process for faculty members and colleges to sanction dishonesty. Violations of this policy fall into five broad areas that include but are not limited to:

- Cheating on an academic evaluation or assignments
- Plagiarizing
- Academic deceit, such as fabricating data or information
- Aiding Academic Integrity Policy violations and inappropriately collaborating
- Falsifying academic records

I sanction any incidents of academic dishonesty in my courses using University and HIDA guidelines. Should you have any question about whether or not something falls subject to this clause, feel free to contact me or review the university policy on academic integrity at the above link. Per ASU policy, a student may not avoid the consequences of academic dishonesty by withdrawing from a course, and may be placed back in the course in order to face sanctions resulting from academic integrity violations. You are responsible for abiding by this policy.

• Student Learning Community Conduct:

ASU adheres to a university-wide Student Code of Conduct. The philosophy behind this policy states: The aim

of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change and respect for the rights of all individuals. Self-discipline and a respect for the rights of others in the university community are necessary for the fulfillment of such goals. The Student Code of Conduct is designed to promote this environment at each of the state universities. You are expected to treat your instructor and your fellow classmates with respect and kindness. In all correspondence and in Discussion Board postings, you should show respect for the viewpoints of others who may disagree with you or see things from a different perspective. Criticizing, ridiculing, insulting, or belittling others will not be accepted. Keep in mind that electronic communications do not have the advantage of nonverbal cues that are so much a part of interpersonal communication. Humor or satire can sometimes be misinterpreted in strictly electronic communication forums. In addition, all students should be aware of their Rights and Responsibilities at Arizona State University.

• Copyright:

Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement. The course content, including lectures and other handouts, is copyrighted material. Students may not share outside the class, upload, sell, or distribute course content or notes taken during the conduct of the course (see <u>ACD 304–06</u>, "Commercial Note Taking Services" for more information). THIS CONTENT IS PROTECTED AND MAY NOT BE SHARED, UPLOADED, SOLD, OR DISTRIBUTED.

Statement on Face Coverings on ASU Campuses:

Effective immediately at Arizona State University, face coverings will be required for all employees, students and visitors while in buildings. Face coverings will also be required in outdoor community spaces where social distancing isn't possible. Examples of outdoor community spaces include garages and parking lots, ASU shuttles, bicycle racks and sidewalks.

https://eoss.asu.edu/health/announcements/coronavirus

• Threatening or disruptive behavior:

Self-discipline and a respect for the rights of others in the classroom or studio and university community are necessary for a conducive learning and teaching environment. Threatening or violent behavior will result in the administrative withdrawal of the student from the class. Disruptive behavior may result in the removal of the student from the class. Threatening, violent, or disruptive behavior will not be tolerated in this class, and will be handled in accordance with ASU policy (SSM 104-02). For more information please visit:

https://eoss.asu.edu/dos/srr/PoliciesAndProcedures and https://eoss.asu.edu/dos/safety/ThreateningBehavior.

Withdrawal:

If you are unable to complete the course, it is your responsibility to arrange for withdrawal from the class. You will not be automatically withdrawn and unless you are officially withdrawn from the course you will receive a final grade based upon the total points you have earned for the semester. Students are required to pay all tuition and fees for any registered course unless enrollment is officially cancelled during the 100% refund period. Please visit the Academic Calendar to review the withdrawal deadlines for this semester. For more information on Drop/Add and Withdrawal visit: https://students.asu.edu/drop-add

Special Accommodations:

Your instructor will make any reasonable adaptations for limitations due to any disability documented with the Student Accessibility and Inclusive Learning Services (SAILS), including learning disabilities. Please contact the instructor during office hours or by appointment to discuss any special needs you may have. You must contact the SAILS to process the paperwork for special course accommodations. To request academic accommodations due to a disability, please contact the SAILS (https://eoss.asu.edu/drc); Phone: (480) 965-1234; TDD: (480) 965-9000). Students who feel they will need disability accommodations in this class but have not registered SAILS should contact SAILS immediately. Students should contact the Center on the campus that your class is being held. Campus-specific location and contact information can be found on the SAILS

website. SAILS offices are open 8 a.m. to 5 p.m. Monday – Friday. Check the <u>above website</u> for eligibility and documentation policies (https://eoss.asu.edu/drc). This is a very important step as accommodations may be difficult to make retroactively. If you have a letter from their office indicating that you have a disability which requires academic accommodations, in order to assure that you receive your accommodations in a timely manner, please present this documentation to me as soon as possible so that your needs can be addressed effectively.

• Title IX and Mandated Reporter Policy:

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/fags.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish to discuss any concerns confidentially and privately.

Policy on Sexual Discrimination:

Policy on sexual discrimination as described in ACD 401, "Prohibition Against Discrimination, Harassment, and Retaliation", including the fact that the instructor is a mandated reporter and therefore obligated to report any information regarding alleged acts of sexual discrimination. Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

Student Services & Resources:

You will find a list of student resources at: https://eoss.asu.edu/resources

Resources included are advisement, registration, financial aid, disability services, counseling, tutoring, library, and more.

Novel Coronavirus Information and Updates:

You will find information and Frequently Asked Questions here: https://eoss.asu.edu/communityofcare
You will find Novel Coronavirus updates and announcements here:
https://eoss.asu.edu/health/announcements/coronavirus

Non-emergency Student Care process:

If you are concerned for a your own or a fellow student's well-being, please review the information and complete the form at: herbergerinstitute.asu.edu/caring and the HIDA Care Team will reach out. FOR EMERGENCIES CALL 911. (Be prepared with the physical address of the location.)

Academic Calendar and Important Dates:

The academic calendar can be found here: https://students.asu.edu/academic-calendar

Inclusive Environment:

Throughout this course, you may be presented with ideas or perspectives that you are unfamiliar or uncomfortable with. We encourage you to critically examine these ideas and take risks by offering your own experiences and perspectives through civil discourse. In return, I will work to foster and create an environment where you feel supported in taking these risks.

When possible, human biases were addressed in the design of this course. If there are aspects of the design, instruction, and/or experiences within this course that result in barriers to your inclusion, please reach out to me with suggestions on how I can further improve this course for you or for others

Syllabus Disclaimer:

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. Remember to check your ASU email and the course site often.