

Design Studio

Design Studio is a two semester (yearlong) sequence of courses:

First (fall) semester (Design Studio I & III) consists of the following course numbers:

RAIK 401H, RAIK 403H, CSCE 401H, CSCE 403H

Second (spring) semester (Design Studio II & IV) consists of the following course numbers:

RAIK 402H, RAIK 404H, CSCE 402H, CSCE 404H

Staff and Faculty:

Cheryl Nelson	Kauffman #108B	Interim Director	cheryl.nelson@unl.edu
Professor Justin Firestone	Kauffman #140	Tribe Lead	justin.firestone@unl.edu
Professor David Keck	Kauffman #145	Tribe Lead	dkeck@unl.edu
Professor Robert Mackalski	Kauffman #139	Tribe Lead	robert.mackalski@unl.edu
Professor Stephanie Valentine	Kauffman #144	Tribe Lead	valentine@unl.edu
Rachel Bradley	Kauffman #108C	Grad TA Tech Resource	rbradley4@huskers.unl.edu

Faculty and staff are available to meet by request through an appointment.

Prerequisites to start sequence: Good standing in the University Honors Program and admission to the Jeffrey S. Raikes School of Computer Science and Management or by invitation; RAIK 383H or equivalent. See below for class sequencing.

Meeting: TR 2:00pm – 3:15pm, KAUF Great Hall (122)

Finals Time:

- First semester = Tuesday, December 14th: 1:00pm – 3:00pm, KAUF Great Hall (122)
- Second semester = Wednesday, May 11th: 1:00pm – 3:00pm, KAUF Great Hall (122)

Showcase: Friday, April 29th: 2:00pm – 4:30pm, Nebraska Innovation Campus

Course Objectives

At the end of this course, students will have gathered practical real-world product development experience with interdisciplinary team-based roles, environments, best practices, and processes by working with industry, government, and non-profit partners.

There are five main learning objectives where the students shall be able to:

- A. Apply, demonstrate, and integrate learned professional skills including:
 - Communications
 - Leadership
 - Ethics
 - Teamwork
 - Critical Thinking
 - Problem Solving
- B. Discover and manage diverse expectations including:
 - Client Relationships
 - Accountability
 - Conflict Resolution
 - Self-management
 - Self-motivation
 - Time Management

- C. Apply, demonstrate, and integrate learned business skills including:
 - Product Management (requirements analysis; marketing; story mapping, intellectual property)
 - Project Management and Planning
 - Risk Management
 - Visioning
 - Design Thinking
- D. Apply, demonstrate, and integrate learned software engineering skills including:
 - Testing/Quality Assurance
 - DevOps (working build processes; static code analysis; continuous integration)
 - Tech Proficiencies/Dependability Engineering
 - Architecture and Design
 - Release-driven Iterative Methodologies
- E. Learn beyond project/practice with:
 - Continual Learning
 - Shared Learning
 - Self-improvement
 - Intellectual Curiosity (creativity; innovation)

Course Sequencing

Students in the Raikes School traditionally take Design Studio for two years (four consecutive semesters). We offer the opportunity for students outside of the Raikes School, called Associates, to also take Design Studio by invitation for either one or two years. Here are the course progressions for the different type of students/options:

- Raikes School Student: RAIK 401H → RAIK 402H → RAIK 403H → RAIK 404H
- Raikes School Student with Research Studio Options:
 - RAIK 401H → RAIK 402H → RAIK 405H → RAIK 406H
 - RAIK 405H → RAIK 406H → RAIK 401H → RAIK 402H
- Associate: CSCE 401H → CSCE 402H [→ CSCE 403H → CSCE 404H] (*Optional for second year)
- Software Engineering Associate Options:
 - CSCE 401H → CSCE 402H → CSCE 403H → CSCE 404H
 - CSCE 486 → CSCE 488 → CSCE 403H → CSCE 404H
 - CSCE 401H → CSCE 402H → SOFT 403 → SOFT 404

The reason for this sequencing relates to ACE requirements. The RAIK 401H-402H (and CSCE 486-488) sequence offers both ACE 8 and ACE 10. The course progressions above preserve the student's ability to earn both of those graduation requirements with their initial year of Design Studio (or Senior Design).

Class Time

Design Studio is made up of both hands-on product development and review sessions with faculty and staff. Class time is allocated each week for lectures and workshops designed to support the work that you are doing in teams. We will continue to have guest lectures from the community on various topics. In addition to lectures and workshops, class-time occasionally will be used for teams to present work for review and feedback.

Class topics and content will be organized by weeks and made available in Canvas modules throughout both semesters. The fall and spring schedules will be provided in a separate Design Studio Course Schedule document.

Snow Days

If in-person classes are canceled, you will be notified through a Canvas announcement on alternative measures taken by DS to hold the class session via Zoom or if the class session will be canceled or rescheduled. Students will be expected to check these notifications for continuity of instruction.

Team Time

The focus of each student team is to achieve a successful project by delivering a working solution that delights the customer. Each team is responsible for organizing itself effectively to complete the project. Team time ideally will be scheduled in 3-4 hour blocks but may not be less than 2 hours without the permission of the program lead and tribe lead. For team time, the longer the block the more productive the team. Depending on the skill and efficiency of the student team, it may take more or less time. At least one block of team time must be scheduled on a weekday between 9am and 5pm (beginning at 4:30pm does not fulfill this requirement). Due to the nature of software development, some weeks may require more work than others. Students are encouraged to use all available resources to work “smarter” and not necessarily just “harder.” Team time cannot be scheduled during class time when a class session is scheduled to be held.

Students are expected to spend at least 12 hours in team time each week and are encouraged to spend around 15 hours doing project work during any given week. Most of these hours should have the entire team present and no hours with only first-year or only second-year students. Schedules must be approved by the project’s leadership team, sponsor and tribe lead. The team needs to send a finalized schedule (including weekly meetings) to all stakeholders and post and pin the schedule in their Slack project channel.

Your team will be supervised by a tribe lead (faculty instructor) who will meet with teams throughout the semester to review work and provide feedback. The program lead role which advises teams on DS policies and procedures will be handled by Cheryl Nelson on an as-needed basis.

Grading

Grades will be based on both exhibited practices and delivered work product. Points can be earned in the course as assigned by the tribe lead in the following areas and scaled based on the percentages below.

- Product release evaluations from sponsors (graded 3 times per semester) – 45%
- Best Practices and Process – 30%
- Special Topics Presentation – 10%
- Executive Summary and Project Retrospective – 5%
- Course Participation and Engagement – 5%
- Individual Student Assessment – 5%

Students are expected to participate and be engaged with the class content and activities. This includes with in-class discussions, review of posted videos, completion of assigned activities, etc. While attendance may not be taken on every occasion, instructors will continually make note of who is and is not attending class. It is not acceptable to miss class without a University approved excused absence. Exceeding two unexcused absences will result in reduction of course participation and engagement grade.

Project Releases

A major component of Design Studio is delivery of a software product that delights the customer. Students will be regularly evaluated by their sponsor and points will be based on performance in their development teams. At the end of each release, sponsors will evaluate teams based on four criteria: 1) vision, 2) planning, 3) execution, and 4) communication.

The following points will be awarded for each criterion as follows:

<i>Release</i>	Communication	Execution	Planning	Vision
1 - October 8	3	2	5	5
2 - November 5	3	6	3	3
3 – December 10	3	8	2	2

4 - February 11	3	6	3	3
5 - March 11	3	8	2	2
6 - April 15	3	8	3	1

Sponsors will evaluate the entire team and assign ratings based on their interactions with the team during the release development cycle. Tribe leads will assign the team points based on sponsor feedback and their own view of the project. Points from releases will be distributed in conjunction with a peer review process with each member of the team assigning some number of points to all team members. The total points earned by a student for each release will be assigned by the tribe lead in consideration of the average of all points distributed to that student by the members of the team. Points will be deducted from a student for non-completion of the peer review process within 5 days of notification by DS system.

Team Best Practices

New in Semester Two is the process of Best Practices. One of the goals of Design Studio is to prepare students to be successful members of development project teams by exposing them to best practices that are associated with managing, building, and releasing high-quality products. Students will set goals in the following categories which will be reviewed with Tribe Leads in their weekly interactions.

SEMESTER 1 - Completed

1. Product Management – Customer Discovery, Understanding Requirements, Ideation
2. Story Mapping – Vision, Release Planning
3. Project Management – Initiation, Planning, Estimating, Logistics
4. Teamwork – Leadership, Inclusion, Accountability
5. DevOps – such as, but not limited to:
 - Working Build
 - Static Code Analysis
 - Continuous Integration
 - Continuous Deployment
6. Releases – Process, Commitments
7. Risk Management

SEMESTER 2

8. Communications – Presentations, Technical Writing
9. Testing – Quality Assurance, Test Strategy, User Testing
10. Security
11. Technical Proficiencies – such as, but not limited to:

<ul style="list-style-type: none"> ○ Accessibility ○ Efficiency/Performance ○ Interoperability/Compatibility ○ Privacy ○ Reliability/Dependability 	<ul style="list-style-type: none"> ○ Scalability ○ Telemetry ○ Testability ○ Usability ○ Others not listed
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12. Expectation Management – Improving Estimation, Velocity, Re-setting Expectations
13. Transition

For each team, the points associated with the goals in the above areas will be determined by the team. The degree to which each of these items are performed will be evaluated by the tribe lead assigned to your team. Be advised that you should ensure that you **always** conform to these practices. If you are unsure of how to put practices in place on your team, **communicate with your tribe lead** who is here to help you.

Policies

You **will never** be downgraded or negatively impacted for asking for help in Design Studio. Late work will receive an automatic 50% deduction and will not be accepted more than one week past the due date. Grades will be assigned based on the following scale:

A+	*	A	>= 93.0000	A-	>= 90.0000
B+	>= 87.0000	B	>= 83.0000	B-	>= 80.0000
C+	>= 77.0000	C	>= 73.0000	C-	>= 70.0000
D+	>= 67.0000	D	>= 63.0000	D-	>= 60.0000
F	< 60.0000				

* Grades of A+, at the discretion of the faculty and staff, will be reserved for students who demonstrate an exemplary performance on all practice and academic tasks.

Student Expectations

Students are expected to follow all sponsor, coach, and faculty and staff instructions during the completion of their assigned projects. When expectations are unclear or unknown, it is the responsibility of the student to seek clarification by consulting the appropriate parties. As students will be collaborating closely with industry professionals, all students are expected to be respectful and interact with the highest levels of professionalism in all aspects of this experience. Students are required to attend (either virtually or in-person) all scheduled class events and participate in activities.

First year students are generally expected to be team members, contributing fully to the team while gaining experience in the Design Studio expectations and process. First year students have the opportunity to provide leadership in a specific subject area or skill within a team once those areas are identified. Second year students are generally expected to be team leaders, fulfilling one of the two manager roles on the team and using their experience to lead and direct the team through Design Studio.

Team Expectations

Projects are completed over the course of the academic year. Projects will be completed using an iterative development methodology based on Scrum as outlined in course materials. Each project team, in conjunction with the sponsor, coach, and faculty and staff, is expected to operate using the processes prescribed by Design Studio. Deviation from the processes should be discussed with the Design Studio director and tribe lead and agreed to by all parties; deviations from the Design Studio process rarely will be approved. Teams also are responsible for reporting their status to all stakeholders on at least a weekly basis. Expectations of the team will come primarily from the sponsor and be supported by class content.

Conflicts

Design Studio includes a significant amount of software development work for sponsors who pay a fee for development. The primary purpose of the course is to provide an educational opportunity for the students and an opportunity for sponsors to recruit interns and new post-graduate hires. At the same time, teams are developing intellectual property that will be owned by the sponsor at the end of the Design Studio year. As a result, Design Studio requires some conflict management policies similar to those that you would find in an internship or after you accept a job.

Your Time

What you do in your free time is up to you; however, when you are working on your project during scheduled team time, that is the sponsor's time. When in team time you should not be working on tasks that are unrelated to your Design Studio project. There is always plenty to do and team time is not homework time. If you have your own business, you should **never under any circumstances use team time or Design Studio equipment or resources for any work related to your business.**

Design Studio Resources

We will provide you with all the tools and resources necessary to successfully complete your project. This includes a space to work, a machine to develop on, and devices needed to adequately test your product. You should not use any of these resources for tasks that are not related to your Design Studio project. While team rooms are primarily for Design Studio work, other quiet uses of the space that don't impact the other Design Studio teams are acceptable (such as using it as a quiet place to do homework outside of team time). You should not use personal computers for Design Studio related development and vice versa. If you choose to do Design Studio work on a personally owned computer, be aware that your computer and all its content may be subject to review by the sponsor. Also, be aware that anything you put on a University-owned computer is not private and may be reviewed by UNL faculty and staff, or a member of the sponsor organization.

Employment

To balance time spent on Design Studio with all the other activities in which students are involved, and to prevent undue influence that may disrupt that balance, working for a Design Studio sponsor during the academic year is prohibited. Working for means being paid in any way for work that is being done during either the fall or spring semester. In a limited number of cases, exceptions to this policy can be made with the understanding that **no student may work for the sponsor of the project to which they are assigned under any circumstances.** This policy does not prevent you from seeking post-graduate employment or internships or accepting any offer of employment outside of the Design Studio year; you are encouraged to take advantage of the opportunities that are created by working with sponsors in Design Studio. Requests for an exemption to this policy must be made to the Director of Design Studio in writing (email is fine).

Sponsor Meetings

Weekly team meetings with sponsors are required. They may occur during regularly scheduled team times but may not be scheduled during class time when a class session is scheduled to be held. All team members must be present either in-person or virtually.

Release Meetings

Release meetings allow teams to hand off, demonstrate, and defend the current results while providing direction and planning for project completion. The goal of each release meeting is to provide the sponsor with releasable work product. Releasable work product is some iteration of the project that the sponsor can interact with outside of the meeting, share with others, and use to provide feedback independent of interaction with the team. Teams are encouraged to plan features around making each release as functional as possible and push aggressively towards production-ready releases. All Design Studio teams will release work product in a coordinated effort across all teams and tribes. See the Canvas course calendar or Slack for release dates.

Each release will involve the Design Studio project team, the sponsor team (including the product owner), and the assigned Design Studio tribe lead working together to demonstrate and discuss their progress on the project to the project executive sponsors. Release meetings must be scheduled within one week (before or after) of the scheduled release date and must take place between the hours of 9am and 5pm; without permission from Design Studio, a release meeting may not be scheduled to run later than 5pm. If a sponsor requires a release meeting that will run late, it should be scheduled with your team's tribe lead. Unless otherwise requested by and prearranged with the sponsor, in-person release meetings need to take place in Kauffman.

Teams are **strongly encouraged** to schedule release meetings as early as possible after the backlog for the release has been set. Tribe leads attend multiple meetings, and it may be difficult to coordinate schedules with them. There are a limited number of conference rooms available for in-person meetings or video conference rooms for online meetings with the team members taking place in Kauffman. A calendar meeting invitation should be sent to all required meeting participants.

Online Tools

Online management and collaboration tools will be detailed during the first several weeks of class. Teams are expected to utilize Design Studio supplied project resources for collaboration, issue tracking, and source code management. We use Slack, Canvas, SharePoint, GitHub, and ZenHub for these purposes. In cases where sponsors wish to provide their own tools, teams are expected to use those and ensure that the tribe lead and Design Studio staff have access during the project.

Meeting and Team Rooms

Each team will be assigned a team room and will have access to space for the various meetings that take place in Design Studio. Please be sure to choose meeting spaces most appropriate for the size and technology needs (i.e. video conferencing) of your planned meeting. The following spaces are available to Design Studio teams this year for meetings:

- Kauffman 127A – Small Video Conference Room
- Kauffman 127B – Small Video Conference Room
- Kauffman 127C – Small Video Conference Room
- Kauffman 127D – Large Video Conference Room
- Kauffman 127E – Large Video Conference Room
- Kauffman 102 – Large Conference Room

The following spaces are available to Design Studio teams this year for working team times:

- Kauffman 103 – 3 spaces
- Kauffman 104 – 3 spaces
- Kauffman 114 – 2 spaces
- Kauffman 115 – 2 spaces
- Kauffman 116 – 2 spaces
- Kauffman 125 – 3 spaces
- Kauffman 137/A – 5 spaces

Conference rooms in Kauffman can be scheduled for sponsor meetings throughout the semester using the UNL scheduling tool – instructions will be provided.

SoC Student Resource Center (SRC)

The Computer Science Resource Center (SRC) is committed to continuing to provide support for students enrolled in Computer Science and Software engineering courses. The Student Resource Center is staffed by student tutors and teaching assistants who are available to help you with course work. Teaching assistants for all courses hold office hours in the Student Resource Center.

A virtual Student Resource Center has been set up via Canvas (<https://canvas.unl.edu/courses/120620>) to accommodate students during the COVID-19 pandemic.

HOURS: Monday – Friday, 10 a.m. – 5 p.m.

LOCATION: Avery Hall Room #12

The SoC Student Resource Center is staffed by student tutors and teaching assistants who are available to help you with course work. The SRC is a community hub for SoC students. Even if you don't need help, the Student Resource Center is a great place to study with your peers.

Writing Center

At the Writing Center, our undergraduate and graduate Writing Consultants work with writers at all levels, from all disciplines, at all stages of the writing process. All members of the UNL community (students, faculty, and staff) are welcome. Whether you are brainstorming or organizing ideas or polishing a final draft, we look forward to discussing your writing with you.

All forms of communication are welcome, from essays, lab reports, research papers, and journal articles to presentations, cover letters, personal statements, and theses/dissertations. Writing Center Consultants can work with you at any stage of the writing process, from brainstorming and organizing your ideas through polishing a final draft.

The Writing Center's main location is 102 Andrews Hall. During the 2021-22 academic year, offering online and in-person appointments. Please schedule your appointments as usual through WOnline. Visit Online Writing Center Services page to learn more about our online formats. Sign up for an appointment any time by visiting unl.mywconline.com. For other information about the Writing Center, please visit unl.edu/writing.

Course Policies

Huskers Email Required

@huskers.unl.edu accounts became the primary email for all university communications to students beginning May 20, 2019. This email will ensure that students never miss important university communications and it will be connected to MyRED and Canvas accounts. Additionally, students will use it to access university library services and software — like Adobe Creative Cloud, Matlab, VidGrid, Zoom, Office 365 and more.

A @huskers.unl.edu address has been assigned to you. This will be the primary email for all Design Studio communications emailed to students this year. To access your @huskers.unl.edu email, simply log in to mymail.unl.edu to an external site. with your My.UNL username and password. If you aren't sure what your @huskers.unl.edu email address is, you'll find it listed under the Profile tab in MyRED or MyNCTA.

It's important to check your @huskers.unl.edu email frequently — we recommend daily — so you don't miss any time-critical messages from the university, especially from the offices of Scholarships and Financial Aid, University Registrar, Admissions, and Student Accounts. Instructors will communicate with you primarily through Canvas and Slack, but may use this email, as well.

Recording of Class-Related Activity

We invite all of you to join us in actively creating and contributing to a positive, productive, and respectful classroom culture. Each student contributes to an environment that shapes the learning process. Any work and/or communication that you are privy to as a member of this course should be treated as the intellectual property of the speaker/creator and is not to be shared outside the context of this course.

Students may not make or distribute screen captures, audio/video recordings of, or livestream, any class-related activity, including lectures and presentations, without express prior written consent from the DS Director or an approved accommodation from Services for Students with Disabilities. If you have (or think you may have) a disability such that you need to record or tape class-related activities, you should contact Services for Students with Disabilities. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Failure to follow this policy on recording or distributing class-related activities may subject you to discipline under the Student Code of Conduct.

ACE Requirements

The CSCE 401H course will satisfy ACE Learning Outcome #8: Explain ethical principles, civics, and stewardship, and their importance in society. Learning opportunities for ACE8 will include:

- reading, viewing, and discussing the required materials,
- an investigative case study,
- hands-on design of your capstone project.

In this course, you will be given opportunities to learn, be assessed on what you have learned, and have specific critical skills reinforced. Specifically, through the required materials, you will learn about events due to poor ethics, lack of civic judgments, and inadequate stewardship exercised by the environment, and how these events impacted the society. The readings and other materials have been specifically chosen for that purpose. After going through these materials, quizzes will be given. First, you will be required to learn about general ethical principles expanded into applying those principles via several real-world case studies. Second, you will be quizzed regarding the application of the ethical principles. Quizzes related to these activities will count towards 10% of your semester grade. As part of the overall course grade, you will be assessed via the quizzes, your project reports, and how you practice ethical principles in the way you document your work and acknowledge others'.

The RAIK 402H and CSCE 402H courses will satisfy ACE Learning Outcome #10: Generate a creative or scholarly product that requires broad knowledge, appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection.

Design Studio is the capstone learning experience of the Jeffrey S. Raikes School in Computer Science and Management. In Design Studio, student teams partner with sponsoring businesses and government agencies to develop real-world, software-based solutions meeting their sponsor's needs. Design Studio gives students and sponsors the ability to interact, while benefiting from the support of Raikes School faculty and facilities. Students have opportunities to demonstrate their abilities, knowledge, and capacities by completing consulting based technology projects. Throughout these consulting based projects, student teams will be required to determine and meet the expectations set forth by the project sponsors. Each project goes through all phases of the development process including initiation, execution, and closing.

Students are evaluated based on 1) individual and team improvement, 2) achievement of learning objectives, and 3) project success. Graded assignments used to assess achievement of this outcome include:

- Presentation to the sponsor at completion of several checkpoints throughout the project to assess appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection.

- Iteration commitment/satisfaction forms to assess appropriate technical proficiency, synthesis, interpretation, and reflection.
- Sponsor documents to assess appropriate technical proficiency, information collection, synthesis, and interpretation.
- Project sponsor surveys and sign-off documents to assess broad knowledge, appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection.
- Project retrospective to assess information collection, synthesis, interpretation, presentation, and reflection.

SoC Policies

Design Studio follows all of the School of Computing course policies:

- The SoC has an anonymous contact form (<http://cse.unl.edu/contact-form>) that you may use to voice your concerns about any problems in the course or department if you do not wish to be identified.
- All homework assignments, quizzes, exams, etc. must be your own work. No direct collaboration with fellow students, past or current, is allowed unless otherwise stated. The SoC has an Academic Integrity Policy (<http://cse.unl.edu/academic-integrity-policy>). All students enrolled in any computer science course are bound by this policy. You are expected to read, understand, and follow this policy. Violations will be dealt with on a case-by-case basis and may result in a failing assignment or a failing grade for the course itself.

Additional UNL Course Policies and Resources

Students are responsible for knowing the university policies and resources found on this page.

(<https://go.unl.edu/coursepolicies>)

Satisfying Senior Project (Thesis) Requirements

UNL Honors Senior Project

Participation in Design Studio will satisfy the requirement for an undergraduate thesis in the UNL Honors program. The use of the Design Studio experience in satisfying these requirements is subject to all policies, deadlines, and requirements of the respective program. Teams will complete two documents in the spring (Project Retrospective and Executive Summary) that will be approved by Design Studio faculty and staff and can then be submitted to the Honors program to complete the thesis requirement. Additional instructions will be provided in the spring semester with the two documents on exactly how to submit your work for Honors thesis credit.

UNL Honors Senior Project:

<https://honors.unl.edu/academics/senior-project>

College of Arts & Sciences Undergraduate Thesis for Degrees with Distinction

Participation in Design Studio may be used to partially satisfy requirements for an undergraduate thesis for graduation with some level of distinction in the College of Arts & Sciences. The use of the Design Studio experience in partially satisfying these requirements is subject to all policies, deadlines, and requirements of the college. Students intending to complete a thesis are advised to familiarize themselves with the program requirements.

UNL College of Arts and Sciences:

<http://cas.unl.edu/degrees-distinction>

The work of writing a thesis must be supervised by a faculty member from the college (faculty advisor). If you do not have a preferred faculty advisor for your thesis, Dr. Steve Cooper, Executive Director of the Raikes School, will serve as your faculty advisor.

Requirements for an Undergraduate Thesis for Degrees with Distinction

The thesis must be the result of independent, sustained thought and intellectual curiosity. A survey of the literature about a particular topic is not sufficient however novel it may be. Ideally, there should be a clear formulation of a problem or question, scholarly study which illuminates or addresses it supported by the work done in Design Studio, and a conclusion supported by evidence. A bibliography and reference to existing literature in the field should be included where appropriate. The thesis should be a minimum of 20 pages. Students, working closely with their two thesis advisors, may develop a project that takes a form other than a traditional thesis (e.g. they may develop video, audio, or web-based project), but the research, knowledge, effort, and quality of work should be comparable to that of a thesis in the discipline.

Students should work closely with their faculty advisor as they complete their thesis. A final copy of the thesis must be submitted to their faculty advisor no later than one month prior to the program deadline for final thesis submission.