

# ATLS 5519-004: Spec. Topics - Research Methods

Wednesday, 10:00am - 12:30pm

## Nuts & Bolts:

### Zoom Link:

<https://cuboulder.zoom.us/j/94306863240>

Meeting ID: 943 0686 3240

Passcode: ATLAS

+12532158782,,94306863240# US (Tacoma)

+13462487799,,94306863240# US (Houston)

### Instructor:

Mirela Alistar

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Ellen Do

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Office Hours: By appointment (email or slack ellen), <https://cuboulder.zoom.us/my/ellendo>

Danielle Albers Szafir

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Office Hours: By appointment (through [Calendly](#)), <https://cuboulder.zoom.us/j/6268915969>

## Course Description:

Research in creative technologies and design draws on methods and techniques from a broad set of fields. The objective of this course is to provide a primer for key methodological approaches used in the field. Students will investigate a broad set of techniques for conducting theoretical, design, and experimental research. They will explore how to formulate and investigate research questions using these methods. Topics covered will include basic research ethics, research project design, approaches to constructing theory, research through design techniques, and methods for experimental study.

## Readings:

There is no textbook for this course. Readings will be provided by the instructors through Canvas. You may need to use the Campus VPN to access papers through certain journals and other online resources. More details: <https://oit.colorado.edu/services/network-internet-services/vpn>

## Topic Schedule:

*Subject to Change*

Week One <i>Aug 26</i>	Introduction to Research
<b>Module 1: Theory</b>	
Week Two <i>Sept 2</i>	Defining Theory
Week Three <i>Sept 9</i>	Surveys, Frameworks, & Design Spaces
Week Four <i>Sept 16</i>	Developing Models
Week Five <i>Sept 23</i>	Evaluating Theory
<b>Module 2: Design</b>	
Week Six <i>Sept 30</i>	Design Research Overview
Week Seven <i>Oct 7</i>	Research Through Design
Week Eight <i>Oct 14</i>	Design Communities in HCI
Week Nine <i>Oct 21</i>	Creativity
<b>Module 3: Empirical Studies</b>	
Week Ten <i>Oct 28</i>	Research Motivations
Week Eleven <i>Nov 4</i>	Capturing the Research Story
Week Twelve <i>Nov 11</i>	Research through Experimentation
Week Thirteen <i>Nov 18</i>	Data Collection Methods
<b>Final Project Work</b>	
Week Fourteen	Final Project Clinic

Nov 25	
Week Fifteen Dec 2	Final Project Presentations (3 min video)
<b>Final Paper Due 12/15</b>	

### Course Objectives & Outcomes:

The purpose of this course is to enable students to design, construct, and evaluate a research project, with an emphasis on methods used in creative technologies and HCI. Upon completing this course, students will:

- Formulate a research question and design and execute an approach to investigate that question
- Synthesize literature and research results to develop theoretical infrastructure to advance foundational research knowledge.
- Understand different research approaches that incorporate design components.
- Know approaches of research through design, research and development, the roles of functional software and hardware prototypes and design thinking.
- Make Pecha-Kucha presentations & Elevator Pitch
- Conduct an empirical study and analyze its results
- Formulate and verify mathematical models that capture experimental results

### Assignments & Grading:

Grades in this course will be assessed as a combination of lab notebook completion, weekly assignments, peer critique, and a larger final project. All information about class assignments will be posted to the course Canvas page: <https://canvas.colorado.edu/courses/65942>

This course meets remotely per week. During this time, you are expected to attend class, participate in course discussions, and actively complete in-class activities.

#### Participation:

Students are expected to actively participate in class discussions and activities. Participation in class is graded, with three excused absences throughout the term. Subsequent absences will result in a reduction in your final grade (8% per missed class)..

#### Lab Notebooks:

Writing is a key part of research. Each week, you will write a brief summary of your weekly research activities in a digital lab notebook. Notebooks should be updated by 11:59pm on the Friday of each week. More details on the lab notebooks will be provided during the first week of class.

### Weekly Assignments & Peer Critique:

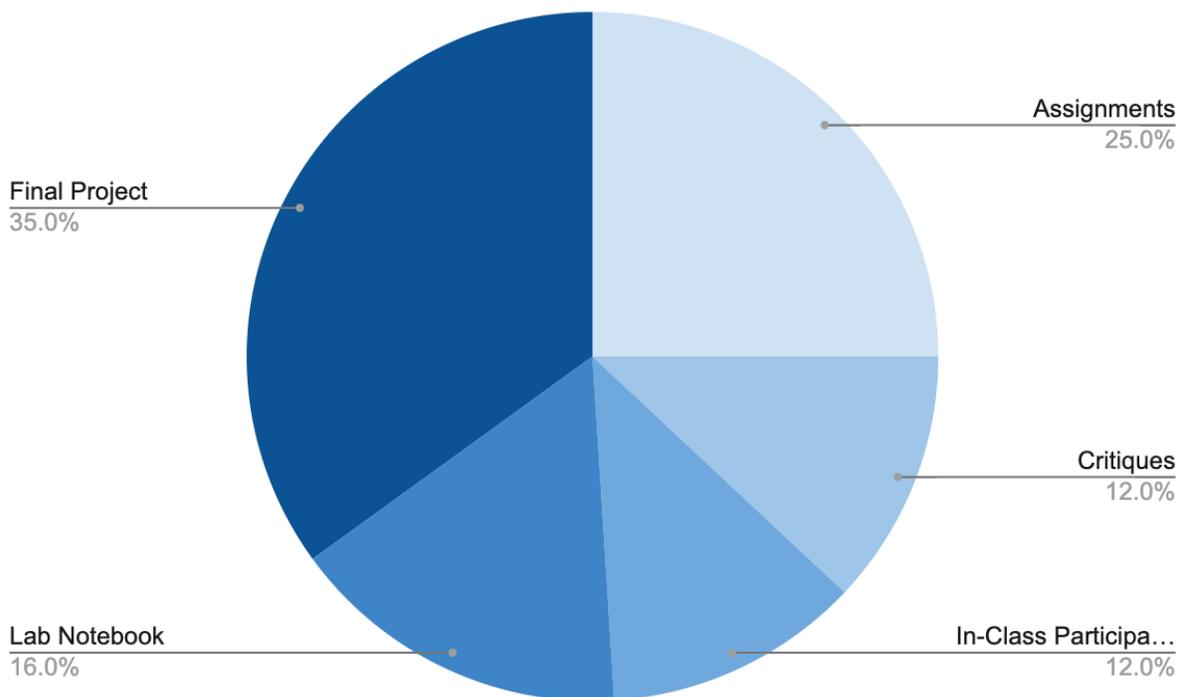
We will have regular small assignments to provide practice with the described methods over the course of the semester. These assignments will allow you to work with different aspects of the material through hands-on research focused activities. All assignments will be submitted through Canvas unless otherwise instructed and due by 11:59pm on Tuesday evening. Late assignments will be docked 25% per week late.

We will additionally engage in peer critique during class time. These peer critique sessions offer an opportunity to provide and receive professional feedback from colleagues, with peer groups rotating on a regular basis. Participation in critique activities is mandatory.

### Projects:

You will craft and execute an individual research project over the course of the term. All projects will be submitted through the course Drive. No late projects will be accepted.

### Grade Distribution:



This course will use a standard, 100-point grading scale:

93.0% and above: A

90.0%–92.9%: A-  
87.0%–89.9%: B+  
83.0%–86.9%: B  
80.0%–82.9%: B-  
77.0%–79.9%: C+  
73.0%–76.9%: C  
70.0%–72.9%: C-  
67.0%–69.9%: D+  
63.0%–66.9%: D  
60.0%–62.9%: D  
Below 60.0%: F

## **Policies & Commitments:**

### **Requirements for COVID-19:**

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

- maintain 6-foot distancing when possible,
- wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders,
- clean local work area,
- practice hand hygiene,
- follow public health orders, and
- if sick and you live off campus, do not come onto campus (unless instructed by a CU Healthcare professional), or if you live on-campus, please alert [CU Boulder Medical Services](#).

Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to [Student Conduct and Conflict Resolution](#). For more information, see the policies on [COVID-19 Health and Safety](#) and [classroom behavior](#) and the [Student Code of Conduct](#). If you require accommodation because a disability prevents you from fulfilling these safety measures, please see the “Accommodation for Disabilities” statement on this syllabus.

Before returning to campus, all students must complete the [COVID-19 Student Health and Expectations Course](#). Before coming on to campus each day, all students are required to complete a [Daily Health Form](#).

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home and complete the [Health Questionnaire and Illness Reporting Form](#) remotely. In this class, if you are sick or quarantined or find yourself needing to be the primary caretaker for someone who is sick or quarantined, please let the instructional team know as soon as reasonably possible. We will work with you to accommodate your needs during the healing process.

### **Technology Requirements:**

Students in this course will benefit from having a laptop or tablet available for notetaking, in-class work, homework, and presentations. If you do not have access to a laptop or tablet, please consult with the instructional team. However, students and instructors alike are encouraged to quit mail and other applications that may be distracting; to turn off notifications and silence phones; and to put nonessential equipment away.

### **Open Discussion & Debate:**

*Adapted from Prof. Casey Fiesler's statement, with permission and thanks*

In the classroom, students and instructors need to feel comfortable sharing their opinions and questions openly, even when we disagree. Disagreement is expected, but must be respectful and civil at all times. Students should feel welcome to share thoughts during class discussion without any fear of being disparaged for their opinions. Like yourselves, we also have opinions and will attempt to surface our own biases when appropriate. These disagreements or differences of opinion will not impact grades, as long as students are respectful. We invite students to meet with us to discuss concerns and ideas about how to make our learning community a positive experience for all.

This policy extends to topics in the course. Please feel free to reach out should there be any topics you'd like to discuss more deeply in class or that are not currently part of the course but you would like to see integrated. While we cannot guarantee that every request will be accommodated, we will do our best to make sure the curriculum and topics align with the needs of all of the students in the course.

### **Accommodation for Disabilities:**

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu) for further assistance. If you have a temporary medical condition, see [Temporary Medical Conditions](#) on the Disability Services website.

### **Family Support Statement:**

*Adapted from Dr. Melissa Cheyney, OSU*

CU does not have a formal policy on children in the classroom. However, we firmly believe that parents should not be forced to choose between family and education. We understand that the current pandemic has made childcare difficult for many parents. Children are welcome in the classroom at any time. We ask that all students work with us to create a welcoming environment that is respectful of all forms of diversity, including diversity in parenting status.

### **Mental Health Statement:**

Success in this course depends heavily on your personal health and wellbeing. **Recognize** that stress is an expected part of the college experience, and it often can be compounded by unexpected setbacks or life changes outside the classroom. Your other instructors and I strongly encourage you to **reframe** challenges as an unavoidable pathway to success. **Reflect** on your role in taking care of yourself throughout the term, before the demands of exams and projects reach their peak. Please feel free to **reach out** to me about any difficulty you may be having that may impact your performance in this course or campus life as soon as it occurs and before it becomes too overwhelming. In addition to your academic advisor, we strongly encourage you to contact the many other support services on campus that stand ready to assist you.

### **Religious Holidays:**

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please alert the instructional team of any such situations at least one week before any potentially conflicting deadlines.

See the [campus policy regarding religious observances](#) for full details.

### **Classroom Behavior:**

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on [classroom behavior](#) and the [Student Code of Conduct](#)

### **Preferred Student Names & Pronouns:**

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

## **Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation:**

The University of Colorado Boulder (CU Boulder) is committed to fostering an inclusive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or [cureport@colorado.edu](mailto:cureport@colorado.edu). Information about the OIEC, university policies, [anonymous reporting](#), and the campus resources can be found on the [OIEC website](#).

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

## **Honor Code:**

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code ([honor@colorado.edu](mailto:honor@colorado.edu)); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the [Honor Code Office website](#).

The first instance of academic dishonesty will result in a grade of 0 on the assignment in question. Subsequent violations will result in a failing grade for the course.