

CICS 396A Independent Study – Directed Research Group (3cr)

Instructor: Dr. Neena Thota
Class: Mo/We 2:30PM - 3:45PM
Office Hours: By appointment
Email: nthota@cs.umass.edu

TA: Jorge Murillo
Office Hours: By appointment

Course Information

Course Description:

We welcome you and your fellow students on this journey of research and learning. The ‘Directed Research Group’ 3-credit course is part of the CICS Early Research Scholars Program (ERSP). It provides a team-based research apprentice experience for Computer Science and Informatics majors in the second year of their major.

To take this course you must successfully complete the ‘Introduction to Research in the Discipline’ course in the fall and are then enrolled in this course in the spring of the second year of your major. You learn about research in the discipline in the first fall semester, and then propose and carry out an independent group research project in this course. You work in teams and are matched with an active research project in CICS.

Course Objectives and Learning Outcomes:

This course is designed to offer you opportunities to carry out an independent group research project for the CICS research lab that you observed in the ‘Introduction to Research in the Discipline’ course. At the end of this course you should be able to demonstrate that you can:

- Identify and formulate a research problem
- Read and analyze research papers
- Work effectively in a team
- Do self-guided learning
- Design a research study
- Perform data analysis
- Show evidence of time management, goal setting, and activity logging
- Communicate about research, both orally and in written form
- Show evidence of effective team work communication and skills
- Create a poster, presentation, and video of your research outcomes

Course Structure:

This course meets twice a week. There are no lectures. You will receive feedback from the course staff on the project that you are implementing. In addition, you attend your research lab meetings on a weekly basis.

We will use Canvas for additional resources and for you to upload project submissions. Announcements will be sent via Canvas and Teams and we'll use Teams for all group communication. You may expect a quick response time during the week. You are strongly recommended to download the Microsoft Teams app on your mobile phone.

Course Topics and Activities:

Topic Overview

1. Identification and formulation of problem statement
2. Researching problem background
3. Performing data analysis
4. Data presentation and visualization
5. Research poster and video preparation
6. Research poster presentation

Activities Overview

- Continued observation/participation in research lab meetings
- Weekly meetings with:
 - Course professor
 - Course assistant adviser (TA)
- Continued work on research project implementation
- Preparation and presentation of final poster and video

Weekly Schedule

Please see Canvas for the latest weekly course schedule and assignment due dates. Typically, Monday class is used for topic review and Wednesday class is group time to complete the project. There is no required textbook and all relevant resources are posted on Canvas.

Weekly class schedule

Week	Course activities and deliverables
Week 1	Program overview and expectations
Week 2	Poster Creation Guidelines; State of Research Report 1 due
Week 3	Peer feedback for first draft of poster; Reflection 1 due
Week 4	Advisor and mentor feedback for first draft of poster; Draft due
Week 5	Introduction to Experimentation and Data Analysis
Week 6	Group work: Second draft of poster - Approach/Implementation; Mid-term peer evaluation

SPRING BREAK	
Week 7	Peer feedback -on second draft of poster; State of Research Report 2 and Reflection 2 due
Week 8	Advisor and mentor feedback for second draft of poster; Second draft of poster - Approach/Implementation Model/Data Collection due
Week 9	Work on Results/Evaluation and Future Work sections
Week 10	Abstract Writing
Week 11	Peer feedback- third draft of poster; Reflection 3 due;
Week 12	Advisor and mentor feedback; State of Research Report 3 and Draft 3 due
Week 13	Research Presentation guidelines - assertion evidence; Final course reflection; Final peer evaluation; Poster and video preparation
EXAM week	Research poster presentation, abstract, and video submission

Course Expectations:

This is a 3 credit (per semester) course which is part of the year-long ERSP. With this course even more than others, what you get out of it will be a function of what you put into it. You should schedule approximately 5-6 hours per week outside class to attend your research lab meetings and for group project work.

As a participant in ERSP and a student in this course, you must commit to the following:

1. To participate in ERSP actively and fully for the full duration of the program and to complete all work associated with the course.
2. To attend all classes and group meetings regularly and punctually.
3. To behave professionally toward your research group members and the faculty and students who comprise the research group you are placed with.
4. To complete the assigned work for the course in a timely fashion, and to "pull your weight" with all assigned group projects.
5. To keep an open line of communication between yourself, the members of your group, and the course professor and TA. In particular, you must let us know if any issues arise, as soon as they arise.
6. To balance your time so as to maintain success in your other courses, as well as in ERSP.

You have a number of opportunities in this course to demonstrate your learning and earn credits towards your final course grade. To receive a passing grade in this class you must:

1. Attend class and participate actively in these class sessions.

2. Attend your group research meeting, on time, every week.
3. Complete all of the assigned class activities before class time.
4. Make steady progress toward your research project. That is, "pull your weight" on your team and live up to your group's expectations.

If you do all of the above, you will pass the course, and get a lot out of it! We recommend you meet all the above expectations, as you risk not passing the course and being removed from ERSP.

Grading

Course Grading:

The grading categories and weights and matching learning outcomes are as follows:

Grade Component	Expected Outcome	Explanation
10% Class and group participation and punctuality	<ul style="list-style-type: none"> ● Show evidence of time management and activity logging ● Complete classwork 	You must attend each class on time, and participate actively and complete the class activities. Your lowest one class attendance score will be dropped. This means you can miss one class for any reason with no penalty as long as you complete any missed class work and are on time and participating in all the others classes. After that, it will start affecting your grade.
10% Reflections on individual research progress	<ul style="list-style-type: none"> ● Do self-guided learning ● Show evidence of time management, goal setting, and activity logging 	Throughout the program you will be expected to reflect on your research activities and your progress.
10% Research group contribution (peer evaluation)	<ul style="list-style-type: none"> ● Work effectively in a team ● Show evidence of effective team work communication and skills ● Submit team state-of-the-research reports 	During the semester, and at the end of the semester, each group member will be asked to judge the contribution of each of the other members of their group. From this information and observations by the instructional team, a determination will be made about each person's individual contribution to the team. In a healthy team, everyone will get full marks here. Group participation reports are submitted periodically.
40% Final Project Poster	<ul style="list-style-type: none"> ● Identify and formulate a research problem ● Read and analyze research papers ● Design a research study ● Perform data analysis 	The project poster is one of the major deliverables for the semester. The final submission will be graded at the end of the semester (grades on early drafts will be factored in).

30% Final Project Presentation	<ul style="list-style-type: none"> • Communicate about research, orally and in video form. • Prepare an abstract for your project. 	The final presentation, abstract and video are the other major deliverables. The presentation will be during the final exam period. There are no exams in this course. Everyone is expected to attend all the presentations.
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Although there is no opportunity for extra credit in this course, don't hesitate to take advantage of the resources listed in the Plan for Success section below. Note that regrades will not be considered because in most cases you have the opportunity to improve your grade through feedback and iteration.

The final numerical cutoff for final course letter grade assignment will be made after all grading is completed. Here is the approximate grade thresholds that usually apply: A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (60-66), F (0-59).

Policies and Accommodations

Diversity Statement:

We envision this course as a supportive and inclusive learning community for all. In this course, each voice in the classroom has something of value to contribute. Please take care to respect the different experiences, beliefs and values expressed by students, TAs, and research mentors involved in this course. My colleagues and I support UMass's commitment to diversity, and welcome individuals regardless of age, background, citizenship, disability, sex, education, ethnicity, family status, gender, gender identity, geographical origin, language, military experience, political views, race, religion, sexual orientation, socioeconomic status, and work experience.

Please let us know what name and pronouns we should use for you if they are not on the roster. Remember: A student's chosen name and pronouns are to be respected at all times in the classroom.

While we will make a concerted effort to be welcoming and inclusive to the wide diversity of students in this course, if there is a way we can make you feel more included please let one of us know, either in person, or via email. Our learning about diverse perspectives and identities is an ongoing process, and we welcome your perspectives and input.

Please understand that others' backgrounds, perspectives and experiences may be different from your own, and help us to build an environment where everyone is respected and feels comfortable. If you experience any sort of harassment or discrimination, please contact us as soon as possible. If you prefer to speak with someone outside of the course, please contact the UMass Amherst Equal Opportunity (EO) Office (413-545-3464 or email equalopportunity@admin.umass.edu) to request an intake meeting with EO staff.

Attendance:

This is a discussion and activity-based class. Participation, in addition to attendance, is an expectation for all students enrolled in the course. Medical conditions, religious or funerary events, university-related events (conference visit, athletic event, field trip, or performance), or extenuating non-academic reasons (military obligation, family illness, jury duty, automobile collision) will be accommodated with written documentation. The lowest attendance score will be dropped.

If you have a medical condition that makes it unsafe for you to attend class in-person, then please contact Disability Services to get an accommodation.

Late Policy: Being consistently late to class disrupts class activities and impacts your group work and discussion. Please be punctual and avoid a warning and possible point deduction for attendance.

Late Submissions and Missed Classes:

It is possible that you may need to miss a class or research group meeting, or submit an assignment late. Seek approval by filling the excusal form in advance on Canvas. Note that even if you are excused from attending a class, you still have to complete the missing class exercise and you may ask for an extension of the due date for submission.

Medical conditions, religious or funerary events, university-related events (conference visit, athletic event, field trip, or performance), or extenuating non-academic reasons (military obligation, family illness, jury duty, automobile collision) that need extension will be accommodated with written documentation. Being too busy is not a valid excuse for missing any class or group meeting.

Academic Honesty Statement:

You will get out of this program what you put into it. For that reason, it does not make any sense to cheat. This means that all work in this class must be your own or the work of your group, where appropriate. In most cases this work will consist of a short writeup, but in some cases the writing will be longer. ALL writing must be your own original work, or the joint work of your group where appropriate, and may not be copied from any source without proper attribution.

Please refer to the [UMass Academic Honesty Policy and Procedures](#) for guidelines on what constitutes academic dishonesty and the sanctions that may be imposed on any student who has committed an act of academic dishonesty. If you have any questions or concerns about what constitutes cheating in this class, please ask me as soon as the question arises.

Technology Policy

We expect students to use technology during class only to complete activities directly related to what the class is currently working on. Please do not use technology for any other reason, including chatting, social media, working on work for other classes, playing games, watching videos, etc.

Guidelines for Group Interaction

This class has group activities that enable students to discover deeper meaning in the content and improve thinking skills.

In your group: Be respectful. Be sensitive. Be aware. Promote Others.

ERSP is about building a community where everyone feels supported, included, empowered and safe. To promote this environment, it is imperative that everyone adhere to the communication guidelines below:

- Treat your classmates with respect.
- Be thoughtful and open in discussion.
- Be aware and sensitive to different perspectives.
- Build one another up and encourage one another to succeed.
- Actively ensure that everyone is contributing to the discussion.

The following behavior is promoted:

- Recognizing that not everyone's experience is equal: racism, sexism, ableism, homophobia or any combination systemically disadvantages some more than others.
- Acknowledging the bias in your own perspective.
- Amplifying the voices of classmates, particularly those who are from groups that are often overlooked.
- Really listening with an intent to understand (instead of thinking about your own next statement).
- Phrasing discussion around ideas, not people.

The following behavior should be avoided where students, faculty, and teaching assistants are present:

- Using insulting, condescending, or abusive words.
- Offensive jokes of any kind, even if you don't think it's offensive to anyone present.
- Hitting on/flirting with groupmates or other classmates in the context of work for this course.
- Using all capital letters in written communication, which comes across as SHOUTING.
- Contacting learners or posting advertisements and solicitations.
- Posting copyrighted material.

Accommodation Statement:

Any student who requires an accommodation due to a disability is directed to contact the UMass Disability Services: <http://www.umass.edu/disability/> to obtain the appropriate accommodation forms. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester. My goal is to provide every student with a high-quality learning experience. Please contact me if you have any questions or concerns about disabilities, or any issue that may impact the quality of your learning.

Title IX

If you have been the victim of sexual violence, gender discrimination, or sexual harassment, the university can provide you with a variety of [support resources](#) and accommodations. UMass is committed to providing these resources with minimal impact and costs to survivors on a case-by-case basis. Resources are available to survivors with or without them filing a complaint. No upfront costs are charged to any currently enrolled students for University Health Services or the Center for Counseling and Psychological Health, and no fees exist for services in the Dean of Students Office, the Center for Women and Community, Student Legal Services, or by live-in residential staff.

Plan for Success:

Your success in this class is important to us. We all learn differently and bring different strengths and needs to the class. If there are aspects of the course that prevent you from learning, or make you feel excluded, please let me know as soon as possible. Together, we'll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus, including:

- Writing Center - <http://www.umass.edu/writingcenter>
- Learning Resource Center - <http://www.umass.edu/lrc>
- Assistive Technology Center - <https://www.umass.edu/it/assistive>
- Disability Services - <https://www.umass.edu/disability/>
- Student Success - <https://www.umass.edu/studentssuccess/>
- Center for Counseling and Psychological Health (CCPH) <http://www.umass.edu/counseling>
- English as a Second Language (ESL) Program - <http://www.umass.edu/esl>
- CMASS Success Coach Program - <https://www.umass.edu/cmass/get-involved/success/academic-support>
- Single Stop Resources - <https://www.umass.edu/studentlife/single-stop>