

***Comp Sci Master’s Project / CPSC 69100-009***

**Syllabus**

# **I. Instructor Information**

***Instructor’s name:*** *Dr. Ray Klump*

***Lewis office location:*** *Memorial Union 105*:

***Office hours:*** *Schedule through “Schedule a Meeting” link on Blackboard*

***How to make appointments outside of office hours:*** *Email klumpra@lewisu.edu*

***Lewis office phone number:*** *815-836-5528*

***Lewis email address:*** *klumpra@lewisu.edu*

# **II. Course Information**

***Course Name, Number, & Section:*** *Computer Science Master’s Project -  
CPSC 69100-009*

***Course Credit Hours:*** *3 credit hours*

***Course description:*** *This course provides graduate students with an opportunity to put into practice the theoretical knowledge they learned, and the skills they have earned during their program of study in the area of computer science. Students work in teams to define a problem, or select a problem introduced by their faculty advisor to design, develop, and provide a substantial solution, then deploy a real-world system, demonstrate the system, and present their methodology and final product to faculty and peers. Prerequisites: Graduate level CPSC 59700 Minimum Grade of C*

***Course meeting times, days, and location:*** Online and arranged

***Additional instructional time:*** *You will need to arrange time to meet in person or online with members of your project team and possibly your client (if doing a project for an external sponsor). You must come to the Romeoville campus for two in-person meetings with me this semester for an in-person progress report.*

***Student Learning Outcomes:***

Course student learning outcomes: *In successfully completing this course you will be able to:*

* *Identify and document system requirements for the target real-world problem.*
* *Design, code, test and document the solution and solution development process using modern and industry-standard tools.*
* *Write a professional quality final project report.*
* *Prepare and deliver an oral presentation to explain the development process and any challenges the team had to overcome.*
* *Perform live demonstration of the final product.*

Program student learning outcomes:

* *Apply knowledge in computer science to investigate a real-world problem and design innovative solution that meets the needs of the various system stakeholders.*
* *Utilize knowledge and skills that students acquired in their MSCS program to implement high-quality and professional grade solutions, which account for practical constraints and tradeoffs.*
* *Gain experience in project management and software development as applied to a complex software project.*
* *Write professional quality technical reports to document the various aspects of the product, the development process and performance analysis of the solution.*

# **III. University Mission Statement**

*Lewis University, guided by its Catholic and Lasallian heritage, provides to a diverse student population programs for a liberal and professional education grounded in the interaction of knowledge and fidelity in the search for truth.*

*Lewis promotes the development of the complete person through the pursuit of wisdom and justice. Fundamental to its Mission is a spirit of association, which fosters community in all teaching, learning and service.*

***How this course connects to the University Mission:*** *This course embraces the People need access to high-quality computer software, hardware, and communications systems to meet the challenges and seize the opportunities presented by our data-driven society. Computer software educates, entertains, and empowers our communities and citizens. This course teaches students to write sophisticated software that performs the useful tasks for which it was designed. This course connects most closely with the Mission values of Knowledge and Justice.*

# **IV. Required Course Materials**

***Textbook(s):*** *None*

***Supplemental readings, videos, online materials***: *Various online articles and recorded lectures. Links will be hosted on Blackboard.*

***Hardware and software requirements:*** *It is recommended that you have a laptop with at least 8GB RAM and software tools that will help you carry out the work of your project.*

***Other required materials or costs:*** *None*

# **V. Instructional Methods and Activities**

***Modality of Instruction:*** *Online but with optional synchronous meetings that will be recorded. Every student must also meet with me in-person with me twice this semester for a progress report.*

# **VI. Course Schedule**

*In this course, you will work in a team to complete a substantial project. Often you will need to use the languages and technologies that you have not used before. This will be a common experience for you as you begin a professional career. I will assist you and will try to point you to appropriate tutorials when possible, but you will be expected to do some research on your own. At the completion of the semester you will submit and demonstrate a fully functional application or system. It is expected that you will spend a minimum of 10 hours each week on the project.*

***Schedule Changes:*** *The instructor reserves the right to modify the schedule. If that happens, students will be notified* *via Blackboard announcements and Lewis email prior to any change.*

# **VII. Grading Criteria and Course Policies**

***Assignments and Course Requirements:*** *This course requires that you complete the several tasks according to the schedule that appears on the next two pages.*

***Course Grade:*** *Your final grade will be determined simply by dividing the number of points you earned by the number of points that were possible to earn and multiplying by 100 to compute your percentage. Then, the following scale will be used:*

*90-100% A 77-77.99% C+ 63-66.99% D*

*87-89.99% B+ 73-76.99% C 60-62.99% D-*

*83-86.99% B 70-72.99% C- 0-59.99% F*

*80-82.99% B- 67-69.99% D+*

***Grading Policies:*** *It is expected that all assignments will be submitted on time unless prior arrangements for serious circumstances (before the due date) are made. Otherwise, penalties for late work will be assessed. Assignments turned in within 24 hours after the due date will be penalized one-third of the value of the assignment. Assignments turned in between 24 hours and 48 hours after the due date will be penalized two-thirds of the value of the assignment. Assignments turned in later than 48 hours after the due date will not earn credit.*

***Course Policies:*** *Treat yourself, each other, and me with respect. Every life is a gift. Every person has intrinsic value. Remember the Golden Rule: treat others as you want to be treated. No exceptions.*

***Plagiarism:*** *If you copy any part of your assignment from another student, whether current or former, or if you copy any part of your assignment from an online resource without attributing the source, you will receive a score of negative the number of points the assignment was worth. Using ChatGPT and other generative AI sources comes with an additional requirement: if you fail to identify what part of your assignment was AI generated and fail also to explain – in detail – what the AI-generated part of your code does and how it works, you will likewise earn negative the number of points the assignment was worth. I will be extreme strict and will offer no leeway whatsoever in enforcing these rules. I have absolutely no mercy when it comes to plagiarism.*

***Changes to Course Assignments or Grades:*** *I will notify you via a Blackboard Announcement and in class of any changes to the grading or course policies.*

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| --- | --- | --- | --- | --- | --- |
| **Task** | **Description** | **Group or Individual** | **Due Date** | **Points** | **Rubric** |
| Resume | Post your resume on the Blackboard Discussion Board | Individual | 9/1/2024 | 10 | Lists / explains specific skills - 3 points Lists / explains specific interests - 3 points Describes past work and educational experiences - 3 points Includes contact information - 2 points Is formatted well 2 points Is written well - 3 points |
| Project ideas | Post project idea to the Blackboard Discussion Board. At this point, the idea should be in the form of a sales pitch. Specify a title, a brief description (perhaps 3 well-formed paragraphs), an explanation of why the project should be done, a listing of the skills required, and the number of people you estimate will be required to complete the project in 6 to 8 weeks of development. | Individual | 9/8/2024 | 22 | Engaging, clear title: 2 points Clear, concise description of approximately 3 paragraphs: 6 points Convincing explanation of the project's value: 6 points Appropriate, complete listing of skills: 3 points Realistic estimate of personnel requirements: 2 points Quality of writing: 3 points |
| Written project launch | A detailed written introduction to the project. The narrative must present the title of the project; describe what is going to be produced in a paragraph; bullet-point the project's main goals; argue the project's value (i.e. explain why it should be done), explain other approaches to solving the problem (citing references to existing literature); explain how your approach will both borrow from and differ from previous approaches; and introduce the team members with a summary of each member's qualifications and what aspects they will be responsible for. | Group | 9/22/2024 | 25 | Clear, engaging title - 2 points Paragraph description of what the project will achieve - 3 points Summary of main goals - 3 points Explanation of the project's value - 3 points Description of other approaches including citations - 6 points Comparison of your approach to previous approaches - 3 points Summary of personnel - 5 points |
| Business Requirements | A detailed explanation of what the project will deliver, presented in a well-written document. | Group | 10/6/2024 | 25 | Fill in the [requirements document template](https://www.dropbox.com/scl/fi/64ck0xu8ti997dx9jtzil/requirements_document_template.docx?rlkey=3t3k8q8g2104dsdnhif1st2we&dl=0). Be very detailed in describing your project’s features. |
| Task estimation | An Excel spreadsheet showing the name and a brief description of each task, what tasks each task depends on, who will work on it, risks, and estimated required to complete the task | Group | 10/13/2024 | 15 | Each task is clearly named - 2 points Each task is clearly described - 3 points Interdependecies are identified - 2 points Appropriate people are assigned - 2 points Risks are identified - 3 points Time estimates (# of hours) are realistic - 3 points |
| Test plans | An Excel spreadsheet that presents a clear explanation of what will be tested, how, and by whom. Test plans don't have to be presented as scripts at this point. Simply idenfity the subsystems / features that will be tested and how. | Group | 10/20/2024 | 10 | The systems / features that need to be tested are identified - 3 points How each system / feature will be tested is clearly explained - 5 points Who will test each feature is identified - 2 points |
| Week 1 Log | A document that describes what your group did / achieved in week 1, including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate. | Group | 10/27/202 | 10 | Detailed, clear presentation of what you accomplished - 3 points What you accomplished contributes to the success of the project - 3 points What you accomplished keeps you on pace to finish on time - 3 points Work is distributed well - 1 point |
| Week 2 Log | A document that describes what your group did / achieved in week 2, including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate. | Group | 11/3/2024 | 10 | Detailed, clear presentation of what you accomplished - 3 points What you accomplished contributes to the success of the project - 3 points What you accomplished keeps you on pace to finish on time - 3 points Work is distributed well - 1 point |
| Week 3 Log + Future Planning and Challenges | A document that describes what your group did / achieved in week 3, including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate.  Also, include a section that presents your schedule for the upcoming weeks. Show very clearly how you will finish the project in the four weeks that are left. Identify any concerns you have about the upcoming challenges and how you work to minimize risk. | Group | 11/10/2024 | 15 | Briefly and clearly highlight what you have accomplished - 3 points Describe the challenges you have overcome - 3 points Show evidence of what you have accomplished when asked for specific documents - 3 points Lay out the plan for next steps - 3 points Share concerns about upcoming challenges and explain how you will minimize risk. - 3 points |
| Week 4 Log | A document that describes what your group did / achieved in week 4, including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate. | Group | 11/17/2024 | 10 | Detailed, clear presentation of what you accomplished - 3 points What you accomplished contributes to the success of the project - 3 points What you accomplished keeps you on pace to finish on time - 3 points Work is distributed well - 1 point |
| Week 5 Log | A document that describes what your group did / achieved in week 5 including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate. | Group | 11/24/2024 | 10 | Detailed, clear presentation of what you accomplished - 3 points What you accomplished contributes to the success of the project - 3 points What you accomplished keeps you on pace to finish on time - 3 points Work is distributed well - 1 point |
| Week 6 Log | A document that describes what your group did / achieved in week 6, including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate. | Group | 12/1/2024 | 10 | Detailed, clear presentation of what you accomplished - 3 points What you accomplished contributes to the success of the project - 3 points What you accomplished keeps you on pace to finish on time - 3 points Work is distributed well - 1 point |
| Week 7 Log | A document that describes what your group did / achieved in week 6, including screenshots and possibly links to other documents that demonstrate what you accomplished. Make sure you cite the features and tasks you identified on your task estimate. | Group | 12/8/2024 | 10 | Detailed, clear presentation of what you accomplished - 3 points What you accomplished contributes to the success of the project - 3 points What you accomplished keeps you on pace to finish on time - 3 points Work is distributed well - 1 point |
| Final Project Report | A detailed technical account of what you accomplished and how. | Group | 12/13/2023 | 80 | Modify and fill in the sections in [this template](https://www.dropbox.com/scl/fi/opj63v8g223j4h7fi9klz/task_estimation_and_testing_spreadsheet.xlsx?rlkey=z85vs0w68yyu9iq58i6p693ij&dl=0). |
| Total |  |  |  | 262 |  |

# **VIII. Academic Information for Students**

***Requests for Reasonable Accommodations***

*Lewis University is committed to providing equal access and opportunity for participation in all programs, services and activities. If you are a student with a disability who would like to request a reasonable accommodation, please speak with the Learning Access Coordinator at the Center for Academic Success and Enrichment (CASE). Please make an appointment by calling 815-836-5593 or emailing* [*learningaccess@lewisu.edu*](mailto:learningaccess@lewisu.edu)*. Since accommodations require early planning and are not provided retroactively, it is recommended that you make your request prior to or during the first week of class.  It is not necessary to disclose the nature of your disability to your instructor. For more information about academic support services, visit the website at:* [*www.lewisu.edu/CASE*](http://www.lewisu.edu/CASE)*.*

*Lewis University has adopted Blackboard Ally providing alternative formats for files uploaded by instructors. Students can click the down arrow next to any file, and select Alternative Formats.*

***Academic Integrity***

*Scholastic integrity lies at the heart of Lewis University. Plagiarism, collusion and other forms of cheating or scholastic dishonesty are incompatible with the principles of the University. Students engaging in such activities are subject to loss of credit and expulsion from the University. Cases involving academic dishonesty are initially considered and determined at the instructor level. If the student is not satisfied with the instructor’s explanation, the student may appeal at the department/program level. Appeal of the department /program decision must be made to the Dean of the college/school. The Dean reviews the appeal and makes the final decision in all cases except those in which suspension or expulsion is recommended, and in these cases the Provost makes the final decision.*

**Coursera Career Academy**

*Students at Lewis University have open access to industry-recognized courses and certificates from leading employer. Through this collaboration, our students have access to over 50 certification programs developed in collaboration with industry leaders, including Microsoft, Google, Meta, and IBM. The certifications are an opportunity to supplement your current curricula and learn additional job-relevant skills that today’s top employers are looking for. Click on* [*this link*](https://www.lewisu.edu/academics/sgpce/coursera-career-academy.htm) *for more information and to start your Coursera Career Academy journey.*

**Responsiveness to Change**

*Lewis University will be guided by our Lasallian mission and the well-being of our community of students, faculty, and staff in respond and adapting to any sudden changes or circumstances. Based on the guidance of the State of Illinois and the Centers for Disease Control, it may be necessary to require adherence to new to health and safety protocols and/or make changes to the planned modality this course.*

*Except in the case of unforeseen circumstances that require a university-wide shift in instructional modalities, courses will only be offered in the modality listed in the course schedule. It is not possible to accommodate remote attendance in on-campus classes unless the course is listed as hyflex in the schedule.*

**Online and Hybrid Learning**

*Online and blended courses at Lewis University enable students to enroll in courses in which part or all of the course is delivered at a distance.  All courses that contain online instruction require that students participate in regular and substantive interactive learning experiences on at least a weekly basis.  Faculty teaching online and blended courses will clearly state expectations for interactivity as well as faculty engagement with students and timelines for feedback and grading on assignments.*

**IX. Student Health, Wellness, and Community Standards**

***Sanctified Zone***

*Guided by its Catholic and Lasallian heritage, Lewis University is firmly committed to fostering a campus atmosphere that is permeated by its Mission values of Fidelity, Wisdom, Knowledge, Justice, and Association. Accordingly, we have declared the University campus to be a Sanctified Zone, a place and a people United in Diversity. The active promotion of diversity and the opposition to all forms of prejudice and bias are a powerful and healing expression of our desire to be Signs of Faith (Signum Fidei) to each other. To learn more about the Sanctified Zone, please visit: http://www.lewisu.edu/sanctified zone*

*As a Sanctified Zone, Lewis University affirms the importance of diverse spiritual and value-based identities, worldviews, and expressions, including the observance of religious and cultural traditions. To learn more about the rich diversity of spiritual and cultural holidays celebrated within the Lewis community, please see the*[*Interfaith Calendar*](https://www.lewisu.edu/welcome/offices/mission/interfaith-holidays-calendar.htm)*. Please note that this calendar is not a designation of spiritual and cultural holidays officially recognized or observed by Lewis University; rather, it is intended as an educational resource for the Lewis community.*

*Lewis University is committed to inclusion “together and by association” on our campus and in our classrooms. At the beginning of the semester, you should carefully review this course syllabus and requirements. If you have religious or cultural observances that reasonably conflict with attendance or submission of assignments in this class, please let the instructor know as soon as possible so that alternative arrangements may be discussed at the instructor’s discretion.*

***Violence Prevention***

*Students at Lewis University are entitled to personal safety. Our Catholic and Lasallian tradition views every person as created in the image of God, full of dignity and worth. All community members are expected to behave in a way that respects others' rights to control their sexual behavior and bodily integrity. The University takes seriously any incidents of sexual misconduct— including but not limited to sexual harassment, non-consensual sexual intercourse, non-consensual sexual contact and sexual exploitation. To learn more about our comprehensive Sexual Misconduct Policy, find out how to report an incident, or access on and off campus resources, please visit the LU Cares website at* [*www.lewisu.edu/LUCares*](http://www.lewisu.edu/LUCares)*.*

***Mandatory Reporting***

*As an instructor, I have a* [*required reporting*](https://www.lewisu.edu/studentservices/lucares/staff-faculty.htm) *responsibility as a part of my role. Lewis University policy requires me to share certain information brought to my attention about potential sexual misconduct with the Title IX Coordinator. I will seek to keep the information you share private to the greatest extent possible. Information will only be shared with those that need to know to ensure the University can respond, take appropriate measures, and provide resources.*

*A list of confidential (those not required to report to the Title IX office) on and off-campus resources can be found on the LU Cares website:* [*www.lewisu.edu/LUCares*](http://www.lewisu.edu/LUCares)*. For those who may have experienced sexual violence, harassment, dating violence, or stalking, there are no-cost resources available to provide assistance. This support also extends to the individuals' associates. The timeframe in which the violence occurred is not a factor in accessing these resources.*

***Student Wellness Center***

*All Lewis students are eligible and encouraged to use the services offered to support overall well-being and student success. The Student Wellness Center is located on the lower level of Mother Teresa Hall on the Romeoville campus. For more information about all Center offerings or to access on campus, in-person services, visit* [*https://www.lewisu.edu/StudentWellnessCenter*](https://www.lewisu.edu/StudentWellnessCenter) *or call (815)836-5455.*

***Timely Care***

All students have access to a 24/7, 365 days per year telehealth services through a *partnership with TimelyCare (medical, counseling, health coaching, self-care resources/peer community and urgent care). To access services, go to www.timelycare.com/lewisu, use your Lewis University email to log in or download the TimelyCare app. TalkNow and Medical Now on-demand services are available any time of day, either by phone or video. TimelyCare staff are trained to work with any level of concern and will connect students with the Student Wellness Center for additional assistance and follow-up as appropriate.*

**If a student is at imminent risk or there is a serious safety concern, please call 911 or Lewis University Police Department 815-836-5911.** *Lewis community members are encouraged to complete the Assessment and Care Team* [*Person of Concern Form*](https://lewisu.edu/emergencyplanning/personsinterest.htm) *and the Dean of Students Office will ensure follow-up support as well as other campus resources if helpful and needed.*

**X. Additional Policy and Resources**

[***University Student Complaint Policy***](http://www.lewisu.edu/studentcomplaints)

*The University Student Complaint Policy can be found at lewisu.edu/studentcomplaints*

[***University Grade Appeal Policy***](http://www.lewisu.edu/studentcomplaints)

*The University Grade Appeal Policy can be found at lewisuedu/studentcomplaints*

[***University Copyright and Intellectual Property Guidelines***](https://www.lewisu.edu/osp/pdf/Intellectual%20Property%20Rights%20Policy.pdf)

*The University Copyright and Intellectual Property Guidelines can be found at https://www.lewisu.edu/osp/pdf/Intellectual%20Property%20Rights%20Policy.pdf*