

# Syllabus for CAPSTONE 101: Advanced Project Development

Course Code: CAPSTONE 101

Semester: Spring 2028

Duration: February 9th, 2028 – May 20th, 2028

Course Description:

This course is designed to provide students with hands-on experience in project development, teamwork, and problem-solving. Students will work in groups of 6 or 7 to complete a capstone project selected from a list of 20 options. Each group will be supervised by a Teaching Assistant (TA), and every 5 TAs will be overseen by a supervising instructor. The course emphasizes collaboration, critical thinking, and delivering a high-quality final product.

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## Course Objectives:

1. Develop teamwork and project management skills.
  2. Apply theoretical knowledge to real-world problems.
  3. Deliver a functional product or solution by the end of the semester.
  4. Present and defend the project to peers and faculty.
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## Course Structure:

- Group Formation: Students will be grouped into teams of 6 or 7.
  - Project Selection: Each group will choose one project from the provided list.
  - Milestones: 6 milestones will guide the project development process.
  - Supervision: Each group will be supervised by a TA, who will report to a supervising instructor.
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## Milestones:

1. Project Proposal (Due: Feb 23rd, 2028): Define the problem, objectives, and initial plan.
  2. Research and Design (Due: Mar 8th, 2028): Conduct research and create a detailed design document.
  3. Prototype Development (Due: Mar 29th, 2028): Build a working prototype.
  4. Testing and Refinement (Due: Apr 12th, 2028): Test the prototype and refine based on feedback.
  5. Final Product Development (Due: Apr 26th, 2028): Complete the final product.
  6. Presentation and Documentation (Due: May 10th, 2028): Prepare a presentation and final report.
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## Evaluation:

- Milestone Submissions: 40%

- Final Product: 30%
  - Presentation and Documentation: 20%
  - Peer and TA Evaluation: 10%
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## Supervising Instructors:

1. Dr. Emily Carter
    - Email: emily.carter@university.edu
    - Phone: (555) 123-4567
    - Background: PhD in Computer Science, specializes in AI and machine learning.
  2. Dr. Michael Rodriguez
    - Email: michael.rodriguez@university.edu
    - Phone: (555) 234-5678
    - Background: PhD in Engineering, focuses on robotics and automation.
  3. Dr. Sarah Thompson
    - Email: sarah.thompson@university.edu
    - Phone: (555) 345-6789
    - Background: PhD in Data Science, expertise in big data analytics.
  4. Dr. James Lee
    - Email: james.lee@university.edu
    - Phone: (555) 456-7890
    - Background: PhD in Cybersecurity, specializes in network security.
  5. Dr. Olivia Harris
    - Email: olivia.harris@university.edu
    - Phone: (555) 567-8901
    - Background: PhD in Environmental Science, focuses on sustainable technologies.
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## Supervising TAs:

1. John Smith
  - Email: john.smith@university.edu
  - Background: MS in Computer Science, AI enthusiast.
2. Emily Davis
  - Email: emily.davis@university.edu
  - Background: MS in Robotics, experienced in automation projects.
3. Daniel Brown
  - Email: daniel.brown@university.edu
  - Background: MS in Data Science, skilled in data visualization.
4. Sophia Martinez
  - Email: sophia.martinez@university.edu
  - Background: MS in Cybersecurity, expertise in ethical hacking.
5. William Taylor
  - Email: william.taylor@university.edu

- Background: MS in Environmental Engineering, passionate about sustainability.
  - 6. Ava Wilson
    - Email: [ava.wilson@university.edu](mailto:ava.wilson@university.edu)
    - Background: MS in Software Engineering, experienced in full-stack development.
  - 7. Liam Anderson
    - Email: [liam.anderson@university.edu](mailto:liam.anderson@university.edu)
    - Background: MS in AI, specializes in natural language processing.
  - 8. Mia Thomas
    - Email: [mia.thomas@university.edu](mailto:mia.thomas@university.edu)
    - Background: MS in Human-Computer Interaction, focuses on UX design.
  - 9. Noah Garcia
    - Email: [noah.garcia@university.edu](mailto:noah.garcia@university.edu)
    - Background: MS in IoT, experienced in smart device development.
  - 10. Charlotte Hernandez
    - Email: [charlotte.hernandez@university.edu](mailto:charlotte.hernandez@university.edu)
    - Background: MS in Game Development, skilled in Unity and Unreal Engine.
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### Additional Information:

- Office hours for instructors and TAs will be posted on the course website.
- All communication will be conducted via the university's learning management system (LMS).
- Late submissions will incur a penalty of 10% per day.