

Senior Design Project

SDP Coordinator

Dr. Abzетdin Adamov

Director, Center for Data Science Research & Training

School of IT & Engineering

Content

- Introduction to Senior Design Project (SDP)
- What is different about this class
- Objectives
- Learning Outcomes
- Resources
- How to form Project Team?
- Where to get Project Topics?
- Evaluation and Deliverables
- SDP Timeline

Important Terms

- Project Topic
- Project Team
- Project Advisor
- Industry Mentor (Company Sponsor)
- SDP Committee
- Progress Report
- Final Report

Introduction to Senior Design Project (SDP)

SDP is an application of technical, communication, personal, and team skills. Oral and written communication of technical information, including progress reports, technical memos, final report, and oral presentations.

Students work in small groups over two semesters to identify an opportunity, define the problem, analyze competing needs and requirements, perform prior work searches, develop alternative designs, carry out cost analyses, and select and implement a design solution.

Introduction to Senior Design Project (SDP)

The course is a stepping stone for students to learn about engineering research, design and implementation.

Senior Design Project consists of two related courses:

- SITE-4790 Senior Design Project I (Fall)
 - Phase 1: Proposal
 - Phase 2: Requirements & Design (Draft Report)
- SITE-4791 Senior Design Project II (Spring)
 - Phase 3: Final Report
 - Phase 4: Prototype/Implementation

What is different about this class

Unlike other courses, this course does not intend regular participation in class, instead it is independent study/research.

Meetings are scheduled with the Project Advisor (faculty mentor) for the particular Senior Design Project.

Each Project Team will meet together weekly, keeping detailed minutes of the meetings.

SDP Learning Objectives

- Learning to select and plan a CS/CE/IT/SE project involving analysis and design tasks
- Learning to conduct a literature survey
- Learning to carry out, as a team, CS/CE/IT/SE design project
- Learning to perform the relevant calculations, analysis, and implement his design.
- Learning to understand economic, environmental issues related to technology.
- Learning the administrative issues of engineering R&D
- Learning to understand the impact of engineering on societal issues.
- Learning to communicate technical information in writing.
- Learning to communicate in oral and critically evaluate technical information

SDP Outcomes and Assessment

- a) Design and conduct experiments, as well as to analyze and interpret DATA.
- b) Design a system, component, or process to meet desired needs.
- c) Identify, formulate, and solve engineering problems.
- d) Understand professional and ethical responsibility.
- e) Communicate effectively.
- f) Understand the impact of engineering solutions in a global and societal context.
- g) Recognize the need for, and engage in, life-long learning.
- h) Know contemporary issues.

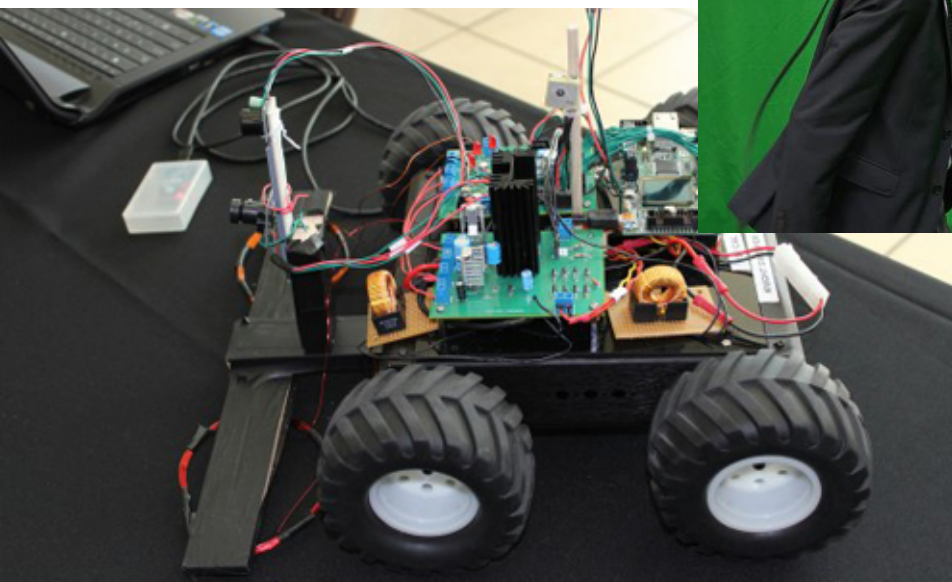
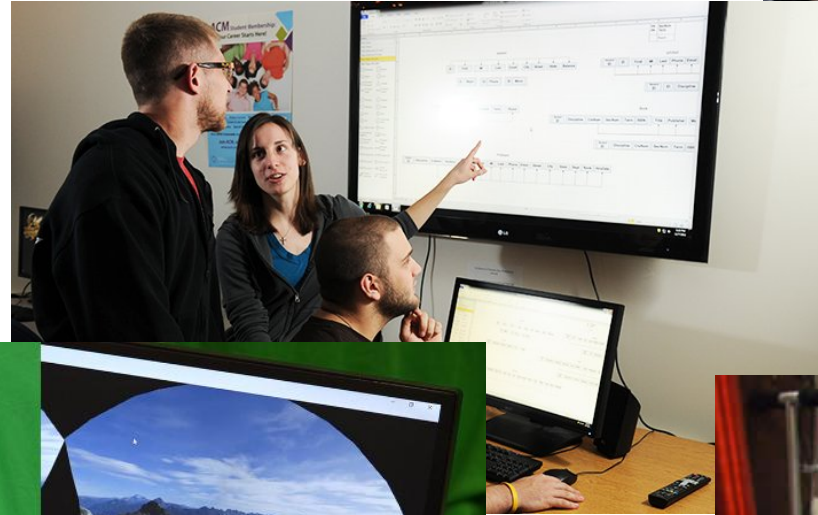
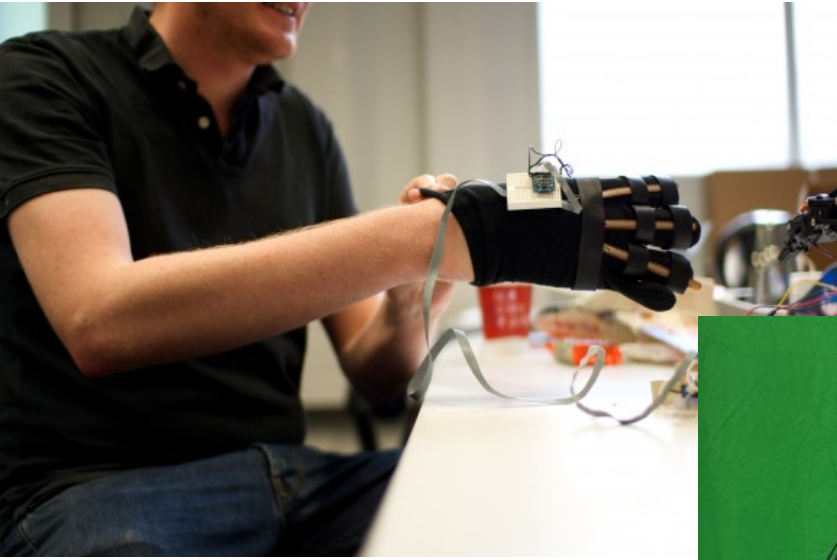
SDP Resources

- No specific textbook
- Internet Resource,
- Library,
- Project Advisor,
- Industry Mentor (if applicable),
- Your peers.

How to form Project Team?

- SDP can't be carried out as an individual project.
- Team size is restricted to only 3 or 4 students. In exceptional case, Project Advisor or Program Coordinator can recommend larger team of five members.
- All students are responsible to form their team.
- In exceptional cases when team can't form their team, Project Advisor or Program Coordinator can dictate team's members.
- Team members may consist students from different programs of the SITE.
- The contribution of each Team Member into project success must be clear during all phases of the project.
- Each Project Team should assign Team Leader (first in members' list).

Where to get Project Topics?



Where to get Project Topics?

- Projects can be in any area of Computer Science, Computer Engineering, Information Technology and System Engineering.
- Project's Topic can come from
 - Project Team
 - from faculty members (or SDP Committee Members).
 - from Industry mentor
- Wherever Project Topic comes from, its subject to the SDP Committee approval.
- It is the student's (Project Team) responsibility to find a suitable project.
- All projects must be physically realized, documented, and demonstrated at the end of the term.

SDP Expenses

- SDP Project can require additional equipment, software, consumables, electronic sets and parts.
- School of IT & Engineering will not provide additional support beyond the allowance to use equipment and parts available in Labs.
- The cost of the project may be exclusively team's, exclusively your sponsor company's (if applicable), or may be shared.

Evaluation and Deliverables for SDP I

SDP is base on PASS / FAIL evaluation

- Quality of Proposal
- Web Presence (standard will be shared)
- Project Progress Report
- Final Report and In-Class Presentation
- Class participation (when you informed)
- Advisor's evaluation

It is highly advisable to publish a paper related to SDP topic

Evaluation and Deliverables for SDP I - Progress Report

- Each team must prepare Progress Report and deliver to Project Supervisor by 9th week.
- Each Project Advisor can require to submit a weekly Progress Report showing the progress accomplished during the preceding week and the plans for the coming week.
- For the CS/CE/IT/SE students, the frequency and deadlines of required progress reports is given by the Project Advisor.
- A report format will be furnished.

Evaluation and Deliverables for SDP I – Final Report and In-Class Presentations

- Each team is responsible to deliver Final Report to Project Advisor and present in-class by 12th week or within time-scope allocated by Project Advisor.

Final Report and In-Class Presentations

- Your Presentation should include at least:
- Project Objectives - State the problem and the objective(s) of the project
- Project Significance - What problem did you try to solve? What are potential applications? Whom it will help?
- Project Novelty - What have others done to solve this problem?
- Describe differences from existing devices, software, solutions or technology.
- Project Solution - Approach, Methods and Procedures that you plan to use in order to solve the problem.
- Project Output/Deliverables - Describe the output of the project: prototype, computer code listing, production drawings.
- Project Timeline - Describe the expected evolution of the project using Gantt Chart.

SDP – Approximate Timeline

- (1-2 w) Delivering Introduction and Guidelines
- (2-3 w) Team Members/Team Formed/Team Leader selected
- (1-4 w) Project Proposals from Faculty Project Advisors (SDP Committee should approve all Projects)
- (3-5 w) Faculty Project Advisor and Project Topic selected
- (5 w) Project Proposal Submitted – a well-defined project proposal that includes a description, problem statement, conceptual design, and a detailed list of deliverables.
- (6 w) Industry Mentor (Project Sponsor) determined, if applicable
- (9 w) Progress Report - Quart Chart
- (up to 10 w) Team/Project Web Presence - Website that includes project title, logo, description, team, etc.
- (12 w) Final Report and In-Class Presentation - standard template will be shared

Q & A



Abzetskln Adamov, Assoc Prof.

Email me at: aadamov@ada.edu.az

Follow me at: @

Link to me at: www.linkedin.com/in/adamov

Visit my blog at: aadamov.wordpress.com