

COE 485 Senior Design Project Course Learning Outcomes Table

Course Learning Outcomes	Outcome Indicators and Details	Assessment Methods and Metrics	Min. Weight	ABET 2000 Criteria
1. Ability to apply knowledge of mathematics, science, and engineering	<ul style="list-style-type: none"> Developing solutions that utilize fundamental scientific and engineering concepts. 	<ul style="list-style-type: none"> Final report (5%) 	5%	A(L)
2. Ability to design and conduct experiments, as well as to analyze and interpret data	<ul style="list-style-type: none"> Design and conduct experiments (including simulation and/or emulation) to explore the design space Collect, analyze and interpret data 	<ul style="list-style-type: none"> Demos (7%) Progress (demo 1%) Final report (2%) 	10%	B(M)
3. Ability to design a system, component, or process to meet desired needs	<ul style="list-style-type: none"> System design from high level specifications Detailed design of the required components Implementation of a prototype 	<ul style="list-style-type: none"> Demos (15%) Progress (demo 1%) Final report (4%) 	20%	C(H)
4. Ability to identify, formulate, and solve engineering problems	<ul style="list-style-type: none"> Defining formal specifications from the problem statement. Examination of different approaches. 	<ul style="list-style-type: none"> Progress (demo 3% + report 2%) Final report (5%) 	10%	E(M)
5. Understanding of professional and ethical responsibility	<ul style="list-style-type: none"> Presentation of original work and proper referencing of existing art. Meeting deadlines and proper planning. 	<ul style="list-style-type: none"> Progress report (1%) Action plan (3%) Final report (1%) 	5%	F(L)
6. Ability to communicate effectively	<ul style="list-style-type: none"> Ability to clearly document the work Effectively communicate the project details orally 	<ul style="list-style-type: none"> Presentation (10%) Progress (demo 1% + report 1%) Final Report (3%) 	15%	G(M)
7. The broad education necessary to understand the impact of engineering solutions in a global and societal context	<ul style="list-style-type: none"> Understanding the impact of his solution to the society such as: healthcare, e-commerce... etc. 	<ul style="list-style-type: none"> Oral presentation (1%) Final report (1%) 	2%	H(L)

8. A recognition of the need for, and an ability to engage in life-long learning	<ul style="list-style-type: none"> • Providing solutions that were not taught in core courses 	<ul style="list-style-type: none"> • Report (2%) • Presentations (2%) • Discussions (demo 1%) 	5%	I(L)
9. knowledge of contemporary issues	<ul style="list-style-type: none"> • Understating the impact of contemporary issues on his design 	<ul style="list-style-type: none"> • Oral presentation (1%) • Final report (1%) 	2%	J(L)
10. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	<ul style="list-style-type: none"> • Demonstrate the use of engineering software/hardware tools 	<ul style="list-style-type: none"> • Demos (7%) • Progress (demo 1%) • Final report (2%) 	10%	K(M)
11. Ability to function as an effective team member.	<ul style="list-style-type: none"> • Demonstrate team work skills in project planning, division of work, team leadership, etc. 	<ul style="list-style-type: none"> • Presentation (2%) • Progress (demo 2% + report 2%) • Final Report (4%) 	10%	D(M)

Summary of weight distribution:

Category	Weight
Action Plan	3%
Progress report	6%
Progress demo	9%
Final report	30%
Final demo	30%
Presentation	16%