

### CSE 4000A: Final Year Design Project - I

CO	Course Outcome (CO)	Program Outcome (PO)	Distributions of Marks (%)		Assessment*	Timeline (Weeks)
			Teacher	Mentor		
CO1	Propose a real-life project that addresses a complex engineering problem that requires fundamental and special knowledge to design its solution.	PO1		10	Chapter 1: Real Life Problem	1-2
CO2	Identify and review the existing solutions of the complex engineering problem, and conduct a gap analysis.	PO4		15	Chapter 2: Investigation	3-6
CO3	Identify the outcomes and functional requirements of the proposed solution considering software and/or hardware specifications and standards.	PO2	15		Chapter 3: Section 3.1 Chapter 5: Section 5.1	7-10
CO4	Identify sub-components of a complex problem; prepare a timeline and appropriate budget using the project management skill.	PO11	10		Chapter 3: Section 3.3, 3.4 Chapter 5: Section 5.3	11-12
CO5	Prepare an interim report of the project and make an oral presentation.	PO10	15	15	Report, Presentation	
CO6	Identify and engage in independent learning activities due to technological changes as required in the process of developing the project.	PO12	20		Journal writing and Submission	

\*If the FYDP template is not maintained, assessment is made based on similar contents of the given chapters/sections.

### Rubrics for Assessing Course Outcomes of FYDP - I

**CO1:** Propose a real-life project that addresses a complex engineering problem that requires fundamental and special knowledge to design its solution.

**Assessment:** Real Life Problem Identification, Overall Report Structure & Format

**Assessment Tool:** Chapter 1: Real Life Problem

**Total Marks:** 10%

**Evaluator:** Mentor

Levels → Criteria	Excellent (10-9)	Very Good (8-7)	Good (6-5)	Poor (4-0)
Identification and Definition of Problem Statement	The problem statement is clearly and objectively identified with concise language and defined with consistent precision of detail. It also addresses real-life issues to allow students to tackle big	The problem statement is clearly and objectively identified with concise language and defined with some precision of detail. The problem also addresses real-life	The problem is identified and defined in a manner that is somewhat unclear. The problem also somewhat misses real-life	The identification and definition of the problem are completely unclear.

	challenges.	issues.	issues.	
Uniqueness	The project is successfully executed from concept to completion with a novel and original approach.	The project is successfully executed from concept to completion. However, unique and original aspects are unclear.	The project is partially successfully executed, with very little unique aspects.	The project work has started, however it is not completed yet. The work that is presented is from other student's work.
Organization	Extremely well organized, logical format that was easy to follow; flowed smoothly from one idea to another and cleverly conveyed; The report is also free from errors in formatting, citation, and references. No grammatical, spelling, or punctuation errors.	Presented in a thoughtful manner; there were signs of organization and most transitions were easy to follow, but at times ideas were unclear. Also, there exist a few grammatical, spelling, or punctuation errors.	Somewhat organized, ideas were not presented well and transitions were not always smooth, which at times distracted the audience	Confusing, format was difficult to follow; transitions of ideas were abrupt and seriously distracted the audience. Moreover, there exists a numerous number of grammatical, spelling, or punctuation errors.

**CO2 Rubrics:** Identify and review the existing solutions of the complex engineering problem, and conduct a gap analysis.

**Assessment:** Literature Review and Gap Analysis, References

**Assessment Tool:** Chapter 2: Investigation

**Total Marks:** 15%

**Evaluator:** Mentor

Levels → Criteria	Excellent (15-13)	Good (12-8)	Poor (7-0)
Literature Review	Excellent reviews of the existing literature. Includes most recent journals, conferences, magazines etc. Covers highly cited/ impact factor papers.	Moderate reviews of the existing literature. Includes journals, conferences, magazines etc. Covers moderately cited/ impact papers.	Poor reviews of the existing literature. Includes poor quality/ predatory journals, conferences, magazines etc. Covers journal without impact factor.
Gap Analysis	Studied and found a gap of similar applications based on features.  Have studied sufficient papers and found gaps based on taxonomy.  Clustered all the literature gaps and summarized it into	Studied and found a gap of similar applications without features identification.  Have studied sufficient papers and found gaps without taxonomy.  Clustered the literature gaps and summarized it.	Poor literature gap analysis and summarization.

	specific points.		
References	Followed standard references using bibtex and/or others.	Followed an own way in the report and differences in references style.	Doesn't follow any standard and is erroneous.

**CO3:** Identify the outcomes and functional requirements of the proposed solution considering software and/or hardware specifications and standards.

**Assessment:** Requirements Analysis

**Assessment Tool:** Section: 3.1 in Report

**Total Marks:** 15%

**Evaluator:** Teacher

Levels → Criteria	Excellent (10-9)	Very Good (7-8)	Good (6-5)	Needs Improvement (4-3)	Poor (2-0)
Requirement Analysis	<p>Following sub-sections are written lucidly:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis</li> <li>3. System modeling</li> <li>4. Requirements specification</li> </ol> <p>Rhetoric technical writing, especially the exploitation of figures. Grammar and typos are checked.</p>	<p>States lucidly the following subsections 3.1.1, 3.1.2, 3.1.3, and 3.1.4:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis</li> <li>3. System modeling</li> <li>4. Requirements specification (Producing software requirement models by including ER diagrams, data flow diagrams (DFDs), function decomposition diagrams (FDDs), data dictionaries, etc.)</li> </ol>	<p>States lucidly the following subsections 3.1.1, 3.1.2, and 3.1.3:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis</li> <li>3. System modeling (Blueprints for system design and modeling should be elaborated)</li> </ol>	<p>States lucidly the following subsections 3.1.1 and 3.1.2:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis and negotiation (Requirements are identified and conflicts with stakeholders are solved, e.g. UML diagram can be used)</li> </ol>	<p>States lucidly the following subsection 3.1.1:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation (Meeting with stakeholders and identify their needs and wants)</li> </ol>

**Assessment:** Standards

**Assessment Tool:** Section 5.1 in Report

**Total Marks:** 5%

**Evaluator:** Teacher

Levels → Criteria	Excellent (5)	Very Good (4)	Average (3)	Poor (2-0)
Literature Review	States lucidly the list of standards that are followed to ensure the reliability of the project.  Rhetoric technical writing. Grammar and typos are checked.	States lucidly the list of standards that are followed to ensure the reliability of the project (why are standards important in the project?).	Mention the name of standards and present its guidelines briefly. - ASCE/SEI 7-16 - ASTM F963-17 - ISO 13485:2016	Identify the list of standards that can be used in the project, e.g. name of the standards from the following sources: - IEEE SA - AIAA - IOS - ANSI - ACI - ASTM - Others

**CO4:** Identify sub-components of a complex problem; prepare a timeline and appropriate budget using the project management skill.

**Assessment:** Components/Architecture, Plan and Budget (Report Section 3.3, 3.4, Section 5.3, 10%)

**Assessment:** Components/Architecture, Plan and Budget

**Assessment Tool:** Report Section 3.3, 3.4, Section 5.3

**Total Marks:** 10%

**Evaluator:** Teacher

Levels → Criteria	Excellent (10-9)	Very Good (8-7)	Needs Improvement (6-5)	Poor (4-0)
Components/ Architecture	A system architecture is designed in terms of Context Diagram and Data Flow Diagrams. The diagrams are showing necessary interdependence among the components and well described. Main external or internal stakeholders and functional workflows are	A system architecture is designed in terms of Context Diagram and Data Flow Diagrams. Main external or internal stakeholders and functional workflows are present. The Major workflows are supported with basic interface designs.	A system architecture is designed in terms of Context Diagram and Data Flow Diagrams. The Major workflows are supported with basic interface designs.	A system architecture is designed in terms of Context Diagram and Data Flow Diagrams.

	present. The Major workflows are supported with basic interface designs.			
Plan	A 24-week or two trimester based plan is prepared with task allocation. The tasks are divided into subtasks and the dependency is clearly depicted. A contingency plan is present.	A 24-week or two trimester based plan is prepared with task allocation. The tasks are divided into subtasks and the dependency is clearly depicted.	A 24-week or two trimester based plan is prepared with task allocation.	A 24-week or two trimester based plan is prepared.
Budget	A detailed budget/cost analysis is given with alternatives for each item with critical discussion addressing the effects in design. Includes a business-revenue model.	A detailed cost analysis is given with alternates in each item. Critical analysis is given on the selection of the component and its effects on the design. No business models are shown.	A budget is given only, showing per item costs and alternates.	A budget is given only, showing per item costs.

**CO5:** Prepare an interim report of the project and make an oral presentation.

**Assessment:** Presentation

**Assessment Tool:** Completeness of Contents, delivery

**Total Marks:** 8% + 8%

**Evaluator:** Teacher + Mentor

Levels → Criteria	Excellent (8-7)	Very Good (6-5)	Average (4-3)	Poor (2-0)
Completeness of Contents	Appropriate to the topic. Well designed with good flow and appropriate use of pictures and graphs	Appropriate to the topic. Well designed with appropriate use of pictures and graphs, but uniformity in the slides absent	Appropriate to the topic. Not so well designed. Uniformity in the slides absent. Inappropriate use of pictures and graphs	Not appropriate to the topic. Poor design without use of any pictures and graphs. Only written slides
Delivery	Confident delivery style with clear voice and appropriate dress up  Good spoken English	Confidence in delivery with appropriate dress up but voice is not clear  Good spoken English	Low confidence and voice not clear. Dress up is appropriate.  Spoken English not so good	No confidence in delivery. Voice not audible. No eye contact with the audience. Dress up is inappropriate.  Poor spoken English

**Assessment:** Viva

**Assessment Tool:** Understanding of project and related domains, delivery

**Total Marks:** 7% + 7%

**Evaluator:** Teacher + Mentor

<b>Levels → Criteria</b>	<b>Excellent (7)</b>	<b>Very Good (6-5)</b>	<b>Average (4-3)</b>	<b>Poor (2-0)</b>
Understanding of project and related domains	Good understanding of the relevance of the project  Extensive knowledge of not only the project but domain around	Fair understanding of the relevance of the project  Extensive knowledge of the project but not of the domain around	Fair understanding of the relevance of the project  Fair knowledge of the project and the domain around	Poor understanding of the relevance of the project  Lacks sufficient knowledge of project
Delivery	Technically correct and confident answer  Crisp to-the-point answers	Most of the answers are technically correct but confidence not very good  Crisp to-the-point answers	Few of the answers are technically correct but confidence is not good  Answers not to-the-point	Poor technically knowledge of the subject and low on confidence  Vague answers

**CO6:** Identify and engage in independent learning activities due to technological changes as required in the process of developing the project.

**Assessment:** Continuous evaluation during the whole period of FYDP-I

**Assessment Tool:** Curiosity, Self initiative, Independence, Transfer of past learning, Reflection on learning

**Total Marks:** 20%

**Evaluator:** Teacher

<b>Levels → Criteria</b>	<b>Excellent (20-18)</b>	<b>Very Good (17-15)</b>	<b>Average (14-10)</b>	<b>Poor (9-0)</b>
Curiosity	Explores a topic in depth.  Indicate intense interest in the subject.	Explores a topic in depth.  Indicate interest in the subject.	Explores a topic with some evidence of depth.  Indicate mild interest in the subject.	Explores a topic at a surface level.  Indicate low interest in the subject.
Self initiative	Completes required work.  Generates and pursues opportunities to expand knowledge, skills, and abilities.	Completes required work.  Identifies and pursues opportunities to expand knowledge, skills, and abilities.	Completes required work.  Identifies opportunities to expand knowledge, skills, and abilities.	Completes required work.

Independence	<p>Flourish outside classroom requirements.</p> <p>Educational interests and pursuits exist.</p> <p>Knowledge and/or experiences are pursued independently</p>	<p>Beyond classroom requirements.</p> <p>Pursues substantial, additional knowledge and/or actively pursues independent educational experiences.</p>	<p>Beyond classroom requirements.</p> <p>Pursues additional knowledge and/or shows interest in pursuing independent educational experiences.</p>	<p>Begins to look beyond classroom requirements.</p> <p>Showing interest in pursuing knowledge independently.</p>
Transfer of past learning	Makes explicit references to previous learning and applies in an innovative (new and creative) way that knowledge and those skills in novel situations	Makes references to previous learning and shows evidence of applying that knowledge and those skills in novel situations	Makes references to previous learning and attempts to apply that knowledge and those skills in novel situations.	Makes vague references to previous learning but does not apply knowledge and skills in novel situations.
Reflection on learning	<p>Reviews prior learning in depth.</p> <p>Reveal significantly changed perspectives about educational and life experiences, which provide foundation for expanded knowledge, growth, and maturity over time.</p>	<p>Reviews prior learning in depth.</p> <p>Reveal fully clarified meanings or indicating broader perspectives about educational or life events.</p>	<p>Reviews prior learning with some depth.</p> <p>Reveal slightly clarified meanings or indicating somewhat broader perspectives about educational or life events.</p>	<p>Reviews prior learning at a surface level.</p> <p>Does not reveal clarified meaning or indicating a broader perspective about educational or life events.</p>

### **CSE 4000B: Final Year Design Project - II**

Course Outcome (CO)	Program Outcome (PO)	Distributions of Marks (%)		Assessment*	Timeline (Weeks)
		Teacher	Mentor		
CO1: Analyze and design the real-life project with given specifications and requirements.	PO3	10	20	Chapter 3: sec. 3.3	1-4
CO2: Act and manage the designed project effectively in a team environment.	PO9		20	Weekly assessment - Journal	
CO3: Use modern tools in the process of designing the solution of the real-life project.	PO5	10	10	Chapter 4: Tools	5-12
CO4: Present project's outcomes through written technical documents and oral presentations.	PO10	15	15	Presentation, Report	

\*If the FYDP template is not maintained, assessment is made based on similar contents of the given chapters/sections.

**CO1:** Analyze and design the real-life project with given specifications and requirements.

**Assessment:** Requirements Engineering

**Assessment Tool:** Chapter: 3 in Report

**Total Marks:** 10% (Teacher), 20% Mentor. Teacher's mark will be halved for the following rubric.

<b>Levels → Criteria</b>	<b>Excellent (20-18)</b>	<b>Very Good (17-15)</b>	<b>Good (14-12)</b>	<b>Needs Improvement (11-8)</b>	<b>Poor (7-0)</b>
Requirement Engineering	<p>Following sub-sections are written lucidly:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis</li> <li>3. System modeling</li> <li>4. Requirements specification</li> </ol> <p>Rhetoric technical writing, especially the exploitation of figures. Grammar and typos are checked.</p>	<p>States lucidly the following subsections 3.1.1, 3.1.2, 3.1.3, and 3.1.4:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis</li> <li>3. System modeling</li> <li>4. Requirements specification (Producing software requirement models by including ER diagrams, data flow diagrams (DFDs), function decomposition diagrams (FDDs), data dictionaries, etc.)</li> </ol>	<p>States lucidly the following subsections 3.1.1, 3.1.2, and 3.1.3:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis</li> <li>3. System modeling (Blueprints for system design and modeling should be elaborated)</li> </ol>	<p>States lucidly the following subsections 3.1.1 and 3.1.2:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation</li> <li>2. Requirements analysis and negotiation (Requirements are identified and conflicts with stakeholders are solved, e.g. UML diagram can be used)</li> </ol>	<p>States lucidly the following subsection 3.1.1:</p> <ol style="list-style-type: none"> <li>1. Requirements inception/elicitation (Meeting with stakeholders and identify their needs and wants)</li> </ol>

**CO2:** Act and manage the designed project effectively in a team environment.

**Assessment:** Management of the project with teamwork

**Assessment Tool:** Presentation, Report

**Total Marks:** 20%

**Evaluator:** Mentor

<b>Levels → Criteria</b>	<b>Excellent (20-18)</b>	<b>Very Good (17-15)</b>	<b>Average (14-10)</b>	<b>Poor (9-0)</b>
Teamwork reflects in Journal Management	The student writes about his taking part in any of the tasks, i.e., reading, writing, citing, grammar checking, cross check of other's writeup,	The student writes about his taking part in any of the previous tasks but writes about his weak contribution on implementing/ designing a	The student writes about his weak contributions both in any of the previous tasks and implementing/ designing a concept/program.	The student writes (found) about his poor/no contributions.



	soundness of reasoning checking, etc. related to a report writing as a part of group activities, about his learning/designing/ implementing a concept/program.	concept/program.		
Weekly Activities	The student writes about his taking part in a group discussion, using standard management software, sharing a new idea/ technology with team members and engaging in brainstorming together to solve a problem.	The student writes about his taking part in the group discussion, using standard management software, sharing a new idea/ technology, but cannot afford brainstorming to solve a problem.	The student writes about his taking part in a group discussion, but does not use any management software, cannot share any new ideas and does not engage in brainstorming.	The student does not write about his taking part in any group discussion ever.

**CO3:** Use modern tools in the process of designing the solution of the real-life project.

**Assessment:** Use modern tools

**Assessment Tool:** Chapter 4 - tools

**Total Marks:** 10%

**Evaluator:** Mentor

<b>Levels → Criteria</b>	<b>Excellent (10-9)</b>	<b>Very Good (8-7)</b>	<b>Good (6-5)</b>	<b>Poor (4-0)</b>
Integration of Modern Tools	Fully integrates a wide range of relevant, modern design tools that enhance both the quality and efficiency of the solution.	Uses modern tools effectively, but may not fully explore or integrate all relevant tools or features.	Uses a limited set of tools with minimal integration, leading to inefficiencies.	Relies on outdated methods or uses limited tools, reducing the overall effectiveness and efficiency of the design process.
Tool Selection Justification	Provides a clear, well-reasoned justification for the selection of tools, aligning them directly with project goals.	Justifies tool selection with a reasonable explanation, though some tools may not be fully aligned with project needs.	Provides limited or weak justification for tool selection, with some tools not clearly linked to project goals.	Fails to justify the selection of tools, or chooses tools that are not suitable for the project.
Efficiency in Tool Use	Demonstrates exceptional efficiency with modern tools, optimizing design	Demonstrates good efficiency with tools, but there are some missed opportunities to	Uses tools with moderate efficiency, but significant delays or errors occur in the design	Struggles with tool use, leading to major delays or errors, reducing the overall efficiency of

	time, accuracy, and productivity.	optimize workflows or productivity.	process.	the design process.
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**CO4:** Present project's outcomes through written technical documents and oral presentations.

**Assessment:** Presentation

**Assessment Tool:** Completeness of Contents, delivery

*Rubrics is the same as of CO5 in FYDP I.*

### **CSE 4000C: Final Year Design Project - III**

CO	Course Outcome (CO)	Program Outcome (PO)	Distributions of Marks (%)		Assessment*	Timeline
			Teacher	Mentor		
CO1	Verify and validate the design of the real-life project by fulfilling the specifications.	PO3		25	Chapter 4 - evaluation	1-7
CO2	Assess professional and social impacts related to the designed project.	PO6	5	5	Report 5.2 – economic, social and political constraints	8
CO3	Assess ethical perspectives and responsibilities related to the designed project.	PO8	5	5	Report 5.2 – Ethical constraint	9
CO4	Identify the impact of environmental considerations and the sustainability of the completed project.	PO7	5	5	Report 5.2 - environmental and sustainability	10
CO5	Write professional and technical documents related to the project and orally present project results.	PO10	15	15	Presentation, Report ( <i>Based on full report</i> )	
CO6	Identify and engage in independent learning activities due to technological changes as required during the project.	PO12		15	Chapter 6: Conclusion	11-12

\*If the FYDP template is not maintained, assessment is made based on similar contents of the given chapters/sections.

**CO1:** Verify and validate the design of the real-life project by fulfilling the specifications.

**Assessment:** Implementation, verification and validation of the project design

**Assessment Tool:** Chapter 3

**Total Marks:** 25%

**Evaluator:** Mentor

Levels → Criteria	Excellent (25-22)	Very Good (21-18)	Good (17-14)	Need Improvement (13-10)	Poor (9-0)
Project Design	Following sub-sections are written lucidly:  1. Requirements inception/elicitation	States lucidly the following subsections 3.1.1, 3.1.2, 3.1.3, and 3.1.4:  1. Requirements	States lucidly the following subsections 3.1.1, 3.1.2, and 3.1.3:  1. Requirements	States lucidly the following subsections 3.1.1 and 3.1.2:  1. Requirements inception/elicitation	States lucidly the following subsection 3.1.1:  1. Requirements

	2. Requirements analysis  3. System modeling  4. Requirements specification  Rhetoric technical writing, especially the exploitation of figures. Grammar and typos are checked.	inception/elicitation  2. Requirements analysis  3. System modeling  4. Requirements specification (Producing software requirement models by including ER diagrams, data flow diagrams (DFDs), function decomposition diagrams (FDDs), data dictionaries, etc.)	inception/elicitation  2. Requirements analysis  3. System modeling (Blueprints for system design and modeling should be elaborated)	2. Requirements analysis and negotiation (Requirements are identified and conflicts with stakeholders are solved, e.g. UML diagram can be used)	inception/elicitation (Meeting with stakeholders and identify their needs and wants)
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**CO2:** Assess professional and social impacts related to the designed project.

**Assessment:** Societal, health, safety, legal and cultural issues

**Assessment Tool:** Chapter 5: Section 5.2

**Total Marks:** 5% (Teacher), 5% (Mentor) - Marks are averaged.

Levels → Criteria	Excellent (10-9)	Very Good (8-7)	Average (6-5)	Poor (4-0)
Societal Impact	Thoroughly analyzes societal impacts, including long-term effects, multiple perspectives, and broader social implications.	Identifies key societal impacts, with reasonable consideration of short and long-term effects.	Limited analysis of societal impacts, focusing mostly on immediate or narrow effects.	No clear analysis of societal impact or lacks depth and context.
Health Implications	Provides a detailed analysis of health impacts, considering mental and physical health, and proposes actionable solutions.	Explores health impacts in a general sense, addressing both physical and mental health aspects, but lacks specific solutions.	Mentions health implications but lacks clarity in how the problem affects health or fails to consider mental health.	Health impacts are either not mentioned or very briefly addressed, with no actionable solutions or insights.
Safety Concerns	Comprehensive examination of safety risks, including preventive measures, and adherence to safety standards.	Addresses key safety concerns and suggests some preventive measures or safety strategies.	Discusses safety but lacks thorough analysis or specific preventive measures.	No safety considerations or very minimal mention of safety risks and no preventive suggestions.
Legal Considerations	In-depth review of legal issues, including relevant laws, regulations, and	Adequate analysis of legal aspects, mentioning relevant laws and ethical	Mentions legal concerns but with little depth, or focuses on a single	No or minimal legal considerations are included, or the analysis is outdated or

	compliance requirements.	implications, though lacking detail in some areas.	aspect of the law without addressing others.	irrelevant.
Cultural Sensitivity	Thoroughly examines cultural factors and proposes solutions that respect cultural values, diversity, and inclusivity.	Acknowledges cultural factors and their influence, with some attention to cultural sensitivity.	Mentions cultural factors but lacks depth or fails to link them effectively to solutions or recommendations.	No attention to cultural sensitivity or misunderstandings of cultural issues present.

**CO3:** Assess ethical perspectives and responsibilities related to the designed project.

**Assessment:** Adherence to professional ethics and responsibilities

**Assessment Tool:** Chapter 5: Section 5.2

**Total Marks:** 5% (Teacher), 5% (Mentor)- Marks are averaged.

Levels → Criteria	Excellent (10-9)	Very Good (8-7)	Average (6-5)	Poor (4-0)
Professional Ethics	Consistently follows all professional ethical standards, demonstrating integrity, transparency, and fairness in design process, collaboration, and decision-making.	Generally follows professional ethical standards with minor lapses, addressing them promptly when recognized in design and team interactions.	Inconsistently applies professional ethical standards, with some lapses affecting the project or collaboration.	Frequently disregards professional ethics, with repeated lapses or failures to demonstrate ethical conduct in design and teamwork.
Professional Responsibilities	Takes full responsibility for the project, including design, decisions, and outcomes, acknowledging mistakes, and acting with accountability and reliability in all tasks.	Generally takes responsibility for the project and tasks, with occasional lapses but promptly addresses mistakes and issues.	Rarely takes responsibility for actions or decisions, shifting blame or avoiding accountability in design or collaboration.	Fails to take responsibility for the project or tasks, frequently shifting blame, and does not acknowledge or correct mistakes.

**CO4:** Identify the impact of environmental considerations and the sustainability of the completed project

**Assessment:** Environmental impact and sustainability of the project

**Assessment Tool:** Chapter 5: Section 5.2

**Total Marks:** 5% (Teacher), 5% (Mentor)- Marks are averaged.

Levels → Criteria	Excellent (10-9)	Very Good (8-7)	Average (6-5)	Poor (4-0)
Environmental Impact	Thoroughly analyzes and addresses the environmental	Identifies the main environmental impacts and suggests some	Mentions environmental impacts but offers limited solutions or	Does not consider environmental impact or provides minimal to no

	impact, identifying key factors such as resource usage, waste generation, and energy consumption, and provides effective solutions.	strategies to minimize them but lacks depth in addressing all factors.	addresses only one aspect of the environment.	strategies for mitigating harm to the environment.
Sustainability of the Design	Provides a comprehensive sustainability plan that ensures long-term environmental, economic, and social benefits, including renewable resources and lifecycle analysis.	Includes sustainability considerations, with a focus on some aspects such as material use or energy, but lacks a holistic approach.	Acknowledges sustainability but provides limited or unclear actions on how the design will contribute to long-term sustainability.	Fails to address sustainability or provides no actionable plans to make the design sustainable in the long term.

**CO5:** Write professional and technical documents related to the project and orally present project results.

**Assessment:** Presentation

**Assessment Tool:** Completeness of Contents, delivery

*Rubrics is the same as of CO5 in FYDP I.*

**CO6:** Identify and engage in independent learning activities due to technological changes as required during the project.

**Assessment:** Continuous evaluation during the whole period of FYDP

**Assessment Tool:** Curiosity, Self initiative, Independence, Transfer of past learning, Reflection on learning

**Total Marks:** 15% (Mentor)

Levels → Criteria	Excellent (15-12)	Very Good (11-9)	Good (8-4)	Poor (3-0)
Curiosity	Explores a topic in depth.  Indicate intense interest in the subject.	Explores a topic in depth.  Indicate interest in the subject.	Explores a topic with some evidence of depth.  Indicate mild interest in the subject.	Explores a topic at a surface level.  Indicate low interest in the subject.
Self initiative	Completes required work.  Generates and pursues opportunities to expand knowledge, skills, and abilities.	Completes required work.  Identifies and pursues opportunities to expand knowledge, skills, and abilities.	Completes required work.  Identifies opportunities to expand knowledge, skills, and abilities.	Completes required work.
Independence	Flourish outside classroom requirements.	Beyond classroom requirements.	Beyond classroom requirements.	Begins to look beyond classroom requirements.

	Educational interests and pursuits exist.  Knowledge and/or experiences are pursued independently	Pursues substantial, additional knowledge and/or actively pursues independent educational experiences.	Pursues additional knowledge and/or shows interest in pursuing independent educational experiences.	Showing interest in pursuing knowledge independently.
Transfer of past learning	Makes explicit references to previous learning and applies in an innovative (new and creative) way that knowledge and those skills in novel situations	Makes references to previous learning and shows evidence of applying that knowledge and those skills in novel situations	Makes references to previous learning and attempts to apply that knowledge and those skills in novel situations.	Makes vague references to previous learning but does not apply knowledge and skills in novel situations.
Reflection on learning	Reviews prior learning in depth.  Reveal significantly changed perspectives about educational and life experiences, which provide foundation for expanded knowledge, growth, and maturity over time.	Reviews prior learning in depth.  Reveal fully clarified meanings or indicating broader perspectives about educational or life events.	Reviews prior learning with some depth.  Reveal slightly clarified meanings or indicating somewhat broader perspectives about educational or life events.	Reviews prior learning at a surface level.  Does not reveal clarified meaning or indicating a broader perspective about educational or life events.

### CO-PO mapping for FYDP I, II and III

Course code and Course name	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CSE 4000A: Final Year Design Project - I	CO1	√											
	CO2				√								
	CO3		√										
	CO4											√	
	CO5										√		
	CO6												√
Project – 4000B: Final Year Design Project - II	CO1			√									
	CO2									√			
	CO3					√							
	CO4										√		
CSE 4000C: Final Year Design Project – III	CO1			√									
	CO2						√						
	CO3								√				
	CO4							√					
	CO5										√		
	CO6												√
<b>Overall</b>		<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>