

## **Assignment: Conceptual Design Document**

### **Due Friday, 9/26/2025, before midnight**

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You will now draft your conceptual design document. This document will describe your design plans in detail. After it is completed, you should be ready to begin constructing your prototype.

A template for this document is available on Canvas that explains the sections that you should include. You do not have to use this exact template, but you do need to submit a document that contains all of the required sections:

- **Introduction**
- **Background**
- **System Requirements**
- **Design Constraints**
- **Conceptual Design**
- **Test Plan**
- **Team**
- **Schedule and Budget Plan**
- **Minimum Standard for Project Completion**
- **Final Demonstration**

The template contains more detail on what to include for each section. Example reports are posted online. Please note, not all aspects of these reports are to be emulated, some sections are better than others.

**On the following page is the rubric that will be used to evaluate your report.**

**Introduction (5 points)**

Rating	Points
<i>Contains project overview, description of problem and technical solution</i>	<b>5</b>
<i>Important information missing</i>	<b>2.5</b>
<i>Inadequate Introduction</i>	<b>1</b>

**Background (5 points)**

Rating	Points
<i>Need for solution and unique features elaborated upon, adequate comparison to comparable solutions</i>	<b>5</b>
<i>Important information missing</i>	<b>2.5</b>
<i>Inadequate background section</i>	<b>1</b>

**System Requirements (10)**

Rating	Points
<i>Requirements are of reasonable scope</i>	<b>10</b>
<i>Important information missing / Some unrealistic requirements</i>	<b>5</b>
<i>Inadequate requirements section</i>	<b>2.5</b>

**Design Constraints (10)**

Rating	Points
<i>Three constraints and one impact listed, all applicable for the project</i>	<b>10</b>
<i>Information missing / Some constraints are not applicable and/or reasonable in scope</i>	<b>5</b>
<i>Inadequate constraints section</i>	<b>2.5</b>

**Conceptual Design (30)**

Rating	Points
<i>Design Completely Specified in detail, Top design choice justified</i>	<b>30</b>
<i>Conceptual designs lack detail</i>	<b>22.5</b>
<i>Both design concepts significantly lack detail / critical components not well defined</i>	<b>15</b>
<i>Conceptual Designs Missing Important Design Component</i>	<b>10</b>
<i>Inadequate Conceptual Designs</i>	<b>5</b>

**Sustainability Considerations (10)**

Rating	Points
<i>Sustainable design considered for every key module, all applicable for the project</i>	<b>10</b>
<i>Sustainability considerations missing / Some sustainability considerations are not applicable and/or reasonable in scope</i>	<b>5</b>
<i>Inadequate sustainability consideration section</i>	<b>2.5</b>

**Test and Verification (10)**

Rating	Points
<i>Reasonable initial test plan, all 3 performance criteria adequately described</i>	<b>10</b>
<i>Not all performance criteria are applicable / of reasonable scope</i>	<b>5</b>
<i>Inadequate test plan</i>	<b>2.5</b>

**Schedule (5 points)**

Rating	Points
<i>Reasonable schedule, adequate description of each week's activity towards the end of the semester</i>	<b>5</b>
<i>Important accomplishments left out of the schedule</i>	<b>2.5</b>
<i>Inadequate account of activities and milestones for each member</i>	<b>1</b>

**Budget Plan (5 points)**

Rating	Points
<i>Reasonable initial budget plan, the project's major components adequately taken into consideration</i>	<b>5</b>
<i>Important items left out of budget plan</i>	<b>2.5</b>
<i>Inadequate budget plan</i>	<b>1</b>

**Team (5 points)**

Rating	Points
<i>Team workload is well-balanced, each member assumes a distinct responsibility and roles are well-defined</i>	<b>5</b>
<i>Some roles are ambiguous, or workload imbalance, or important items roles overlap</i>	<b>2.5</b>
<i>Roles are ambiguous, workload imbalance, and important items roles overlap</i>	<b>1</b>

**Minimum Standard for Project Completion and Final Demonstration (5 points)**

Rating	Points
<i>Adequate minimum standard and reasonable plan for final demonstration</i>	<b>5</b>
<i>Inadequate minimum standard or ambiguous final demonstration description</i>	<b>2.5</b>
<i>Inadequate minimum standard and ambiguous final demonstration description</i>	<b>1</b>