Project Report

One electronic copy of the final report is to be submitted by each design team through course website by the deadline.

The contents of the team's final written design project report are to be organized as follows:

Cover: The cover of the report must contain the course name and number, the title of the design project, the Department and University of Windsor names, and the date.

Title Page: On the title page, the title of the design project should appear followed by the name (surname, given name) and student ID number of the students participating in the project. At the bottom of the title page, the department and University of Windsor names should appear, followed by the date.

Abstract: The abstract should give the essential details of the contents of the report including a brief statement of the problem, a summary of the work performed, and the main results achieved. The abstract should not exceed one page.

Collaboration and Participation: Clarification on each team member contribution to the project.

Table of Contents: The table of contents shall consist of a list of the required sections of the paper using the titles as shown below, and the page numbers on which they begin in the order in which they occur.

Introduction: The introduction should lead to the formulation of the project proposal, so that the reader may obtain a clear understanding of the objectives of the project. The previously existing state-of-the-art in the field should also be covered in this section.

Main Body: The main work associated with the design project should be presented in this section. The following sections must appear in the main body of the report. Design Objectives, State-of-the-Art, Values and Constraints, Deliverables, Design Methodology, Physical Implementation, Experimental Results, Prototype Specifications, Proof-of-Design-Concept Demonstration. It is expected that: A theoretical analysis is presented; simulation results are presented; the specifications and performance metrics are presented; the hardware construction is described; the hardware test results are given; a comparison of the desired and measured values is included; and a proof-of-design-concept demonstration is described. The design methodology (flow) shall be clearly shown.

Conclusions: The conclusions should be stated concisely in a separate section at the end of the report. Better emphasis can be obtained if each conclusion is numbered and set off as a separate paragraph. The focus of the conclusions shall be on how the measured performance compared with the desired prototype performance specifications. Conclusions are not a summary of the work carried out. Any novel or innovative contributions associated with the prototype should be clearly stated as part of the conclusions.

References: An acceptable Institute of Electrical and Electronics Engineers (IEEE) format should be followed in listing references. Reference should be made to a current issue of the IEEE Transactions most closely related to the topic of the project for guidance in this matter.

Appendices: All derivations, intermediate results, detailed circuit diagrams, details of apparatus used, computer programs, etc., that are not essential to a basic understanding of the design project should appear under appropriately numbered Appendices. A project schedule showing milestones and the associated dates when the milestones were achieved shall also be included.

Presence of all Elements of Report (5 points)

	All required sections are present and are clear (3)
	All information relevant to a particular section is kept in that section (2)

Introduction (10 points)

	Objective of the project is explained. (4)
	Theory necessary for understanding experiment is clearly provided (6)

Data/Diagrams (15 points)

Total value of 5 points

	Presentation of relevant data (and not raw data) (1)
	Important points are mentioned pertaining to data (1)
	Data are clear and organized with section headings, labeled diagrams, and correctly-formatted tables (units and values are presented clearly and correctly) (1)
	All variables and parameters are defined where necessary (1)
	Data mentioned are discussed in discussion section (1)

Total value of 10 points

	Presents all data/diagrams required for the completion of the laboratory exercise (10)			
Data / Diagrams	10	8	7	-2
	Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately.	Diagrams are included and are labeled neatly and accurately.	Diagrams are included and are labeled.	Diagrams are missing OR are missing important labels.

Design Procedure (15 points)

Total value of 15 points

	Proposed design is explained properly, supported by the simulations diagrams (3)			
	Reasoning behind selection of particular design and parts is given. The author should be able to answer why specific parts are used, and for what purpose (4)			
	Explanation of any previous or similar work that the team happen to find on various resources to present early design expectations (4)			
	Presentation of step by step account of the experiment (4)			
Procedures For each of the four points above.	4	3	2	1
	Procedures are listed in clear concise but descriptive.	Procedures are listed in a logical order, but steps are not numbered and/or are not in	Procedures are listed but are not in a logical order or are difficult to	Procedures do not accurately list the steps of the experiment. Contain many

	Each step is numbered and is a complete sentence in passive tone past tense.	complete sentences. Some mistakes in grammar.	follow. Not descriptive enough.	errors in language. Procedures are just a copy of what is given in the handout.

Discussion/Analysis (15 points)

Total value of 5 points

	Author explains relevance of data presented (1)
	Data mentioned is present in the Data/Results section or referenced where necessary (1)
	Author relates discussion to objectives of the experiment (1)
	Author explains anomalous results (1)
	Author accounts for possible errors in experiment (1)
	Discussion on results of analysis in the context of experimental results. . Include discussion of nominal vs. ideal values of circuit elements (5)

Conclusion (10 points)

Total value of 10 points

	Author explains implications of results from analysis made (2)
	Author compares results to theory (literature values) (3)
	Author discusses validity of hypothesis from results and analysis (3)
	Author suggest further experiments to help identify and eliminate causes of anomalous results (2)

Sentence Level/Wording (5 points)

	Sentences are clear and concise (1)
	Wording is appropriate for context of paper (1)
	Grammar and spelling are correct (1)
	Sentences connect well (1)

Project demonstration (25 points)

	Team members are both present and for the demonstration (5)
	Team members know and have knowledge about all aspects of the work, and can answer questions (5)
	Both parties are collaborating on the project, and have equal share in contributions (3)

Project Demonstration	12	8	5	1
	Team builds a working model that excellently	Team builds a working model that adequately	Team builds a working model that minimally	Team builds a working model that does not

	aligns with the criteria, constraints, and intent of the problem. The working model can be tested using appropriate tools, materials and resources.	aligns with the criteria, constraints, and intent of the problem. The working model can be tested using appropriate tools, materials and resources.	aligns with the criteria, constraints, and intent of the problem. The working model can be tested using modified tools, materials and resources.	align with the criteria, constraints, and intent of the problem. The working model can be tested using modified tools, materials and resources OR completed working model cannot be tested.

	Working model is not built (-70)

	Project is over budget (-40)

	Proposal is not submitted or there are huge differences between the proposal and final project (-50)

These are approximate marks to help GA mark the labs.

Items	**Excellent**	**Good**	**Satisfactory**	**Needs Improvement**
Introduction	5	4	3	2
	Explained extensive theory in relation to experiment conducted. Compliment with illustration on the theory explained. Written in neat and with good flow argument.	Explained in descriptive manner but not extensive. Illustrations are there but not to compliment the explanation. Written in neat with relevant argument.	Explain in satisfactory manner but short of description and illustrations. Not enough argument though writing is ok.	Poor explanation. Direct copy from the book or manual! Poor writing presentation.
Procedures	16	14	12	6
	Procedures are listed in clear concise but descriptive. Each step is numbered and is a complete sentence in passive tone past tense.	Procedures are listed in a logical order, but steps are not numbered and/or are not in complete sentences. Some mistakes in grammar.	Procedures are listed but are not in a logical order or are difficult to follow. Not descriptive enough.	Procedures do not accurately list the steps of the experiment. Contain many errors in language. Procedures are just a copy of what is given in the handout.
Discussion	15	12	9	5
	All important trends and data comparisons have been interpreted correctly and discussed, good understanding of results is conveyed	Almost all of the results have been correctly interpreted and discussed, only minor improvements are needed	Some of the results have been correctly interpreted and discussed; partial but incomplete understanding of results is still evident	Very incomplete or incorrect interpretation of trends and comparison of data indicating a lack of understanding of results
Conclusions	10	8	5	3
	All important conclusions have been clearly made, student shows good understanding	All important conclusions have been drawn, could be better stated	Conclusions regarding major points are drawn, but many are misstated, indicating a lack of understanding	Conclusions missing or missing the important points
Demonstration	25	20	10	2
	Final product works well within the proposal. Both team members are able to answer the	Final product works close to the proposal idea, with some deviations or change in the design. Both	Final product is not operational, and is far from the proposal idea. However proposal idea is still	Final product is not operational; team is not collaborating with each other.

	questions and show team work	parties are able o answer all the questions.	followed by the team. Team members are not sure of the reason. Team members are not collaborating with each other.	
PENALTY IN MARKS! (your lab mark may end up with negative mark, which will be deducted from your total mark)				
Sentence Level/Wording	10	8	5	-2
	One or fewer errors in spelling, punctuation and grammar in the report.	Two or three errors in spelling, punctuation and grammar in the report.	Four errors in spelling, punctuation and grammar in the report.	More than four errors in spelling, punctuation and grammar in the report.
Data / Diagrams	15	13	7	-2
	Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately.	Diagrams are included and are labeled neatly and accurately.	Diagrams are included and are labeled.	Needed diagrams are missing OR are missing important labels.
General Organization	4	3	2	-4
	Lab report is typed and uses headings and subheadings to visually organize the material.	Lab report is neatly handwritten and uses headings and subheadings to visually organize the material.	Lab report is neatly written or typed, but formatting does not help visually organize the material.	Lab report looks sloppy with cross-outs, multiple erasures and/or tears and creases.