Wireless Networks & Systems- Project

Post Date: 14th Feb 2025; This assessment is worth 20% of course credits.

In this project, students will delve into wireless network modeling for Local Area Networks (LANs) or Wide Area Networks (WANs)**,** focusing on designing network topologies and protocols within a simulation environment. By simulating these networks, the project seeks to assess and evaluate network performance and address potential issues that may emerge under varying wireless channel conditions.

For this course project, you have the option to either work individually or collaborate with one other student to form a group. You can choose the format that best suits your preferences and working style. If you decide to work in a group, both members should contribute equally to the project.

This assessment is subdivided into four parts:

- **Milestone 01 - Due in Wk 07 (Group level presentation to instructor)**
- **Milestone 02 – Due in Wk 10 (Class presentation)**
- **Milestone 03 – Due in Wk 13**
- **Milestone 04 – Due in Wk 15**

Criteria	Weight	Exceptional (1 - 0.9)	Proficient (0.89 - 0.75)	Adequate (0.74 - 0.60)	Unsatisfactory (0.6 - 0)
Project Objective (Milestone 01)	2.50%	The project objective is exceptionally clear, focused, and well-defined.	The project objective is clear and focused, with solid understanding.	The project objective is present, but lacks clarity or focus.	The project objective is vague or poorly defined.
Literature Review (Milestone 02)	2.50%	Comprehensive review with expert identification of gaps in the field.	Good understanding of research with minor gaps.	Adequate review, but lacks depth or overlooks important sources.	Limited review with significant gaps or missing sources.
Project Methodology & Implementation (Milestone 03)	2.50%	Well-designed methodology with clear justification and creative, robust solutions.	Clear methodology with strong justification and sound solutions.	Methodology is described but lacks clarity or depth in some areas.	Poorly explained methodology, weak or absent solutions.
Network Topology and Simulation Framework (Milestone 03)	5%	Highly accurate and complete simulation setup with all components configured.	Accurate and complete setup with all necessary components configured.	Basic setup with missing or incorrect elements.	Incomplete or incorrect setup with lack of understanding.
Critical Analysis & Reflection (Milestone 03)	2.50%	Rigorous, systematic analysis leading to insightful conclusions with deep reflection.	Well-executed analysis with good understanding and meaningful insights.	Analysis is present but lacks depth or relevance.	Incomplete or flawed analysis with no meaningful reflection.
Viva (Milestone 03)	2.50%	Provides thoughtful, confident, and comprehensive answers to all questions; demonstrates mastery of the topic.	Confidently answers most questions with clarity; provides relevant and well-supported responses.	Answers questions adequately but may lack depth or confidence in responses.	Struggles to answer questions; lacks confidence and understanding.
Report Structure & Organization (Milestone 04)	2.50%	Well-defined structure with seamless transitions and logical flow throughout the paper.	Clear structure with generally smooth transitions and coherent ideas.	The structure is evident, but some transitions may be awkward or unclear.	Lack of clear structure, with disjointed ideas and poor transitions.

For final submission (Milestone 04):

Use the Overleaf/IEEE standard template for the paper write-up, and share the link with class instructor.

- Try to limit your write-up to 3-4 pages at maximum, the text size should be from 10 to 12, back and front pages of a single paper are counted as two pages
- The citation must need to be added, prefer to include recent material (past 1-2 years). Keep your report well organized and add proper captions for all figures and tables (copy from other sources not allowed).

The submission will be online and it will be checked through Turnitin for similarity check. The similarity percentage must be less than 20% (overall) and less than 5% with one source. Write-up not meeting these rules will be penalized in grades, while similarity greater than 40% will not be graded.