

Programme

Master of Software Engineering (Level 9) 180 Credits

Course

**Intelligent Transportation Systems**

**MSE806**

(Level 8, 15 Credits)

Assessment 2

Group Project

Version-1.0

Weightage

50%

# MSE806: Intelligent Transport Systems: Group Project

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## Rationale

Projects in Intelligent Transport Systems (ITS) offer students the chance to tackle complex transportation challenges, integrate emerging technologies, and foster interdisciplinary collaboration. These projects enable the development of innovative solutions that optimize resource utilization, enhance user experience, and improve overall transportation efficiency. By leveraging expertise in engineering, computer science, and related fields, students contribute to creating smarter, more sustainable cities and communities. Engagement in ITS projects provides valuable skills and experience sought after in the job market, leading to rewarding career opportunities in transportation engineering, smart city development, consulting, and technology innovation. Ultimately, these projects drive real-world impact, promoting safer, more efficient, and environmentally sustainable transportation systems that benefit society as a whole. Through their research and solutions, students play a crucial role in shaping the future of transportation and advancing the quality of life for people around the world.

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## Learning Outcomes:

1. Apply intelligent transportation technologies, knowledge, and skills in the development of reliable software information communication systems [LO3].
  2. Analyse and assess the efficiency of intelligent transportation systems to support enhanced system security [LO4].
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## Brief

The objective of this project is to empower students to explore, design, and implement innovative solutions within the Intelligent Transport System (ITS) domain. While the overarching goal is to contribute to advancements in transportation technology, students are encouraged to propose projects that align with their interests and showcase creativity. The assessment will focus on the relevance, feasibility, and impact of the chosen project within the broader context of ITS.

This project assessment provides students with the flexibility to explore their interests and contribute to the field of Intelligent Transport Systems in a way that aligns with their passion and expertise. By allowing students to propose their own project titles, the assessment encourages a diverse range of projects, fostering creativity and ownership in the learning process.

Embarking on an ITS project is an exciting opportunity to shape transportation technology. Follow this guide to create a project aligned with your interests and goals:

### 1. Propose a Title:

- Choose a title reflecting your passion and interests in ITS. This title sets the direction for your project.

### 2. Define Objectives:

- Clearly outline your project's objectives. Identify specific challenges or opportunities within ITS to address.

### 3. Innovate Technologically:

- Explore emerging technologies to push ITS boundaries. Your project should contribute to cutting-edge solutions.

### 4. Assess Feasibility:

- Evaluate if your solution is feasible and scalable in real-world scenarios. Consider its practicality and potential impact.

### 5. Embrace Collaboration:

- Collaborate across disciplines for a holistic perspective. Enrich your project with insights from diverse fields.

### 6. Prioritize Ethics:

- Ensure ethical standards by prioritizing privacy, security, and responsible technology use. Uphold user trust and privacy.

Remember, the journey is as valuable as the outcome. Stay open to learning, adapt to challenges, and enjoy contributing to ITS innovation. Leverage your skills and consider the impact your project can have on the future of transportation. Your project has the power to shape tomorrow's transportation—make it count!

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## Submission Guidelines

Please adhere to the following submission guidelines for your assignment via the Blackboard Learning Management System (LMS):  
Submission Guidelines for ITS Project Assignment

### 1. Submission Format:

- Submit your assignment in a single ZIP folder containing all necessary files. Ensure that the ZIP folder includes:
- Project report files in DOC or PDF format.

- Code files for the project implementation.
- Executables or any additional files required for project demonstration.

## 2. Word Limit:

- The project report should fall within the word limit of 2500 to 3000 words. Ensure concise and clear communication of ideas within this limit.

## 3. Academic Formatting and Citations:

- Employ academic formatting and adhere to the APA citation style for references in the project report. Include proper citations for all external sources used.

## 4. Inclusion of Visual Aids:

- Enhance the project report by incorporating relevant figures, charts, and tables to support your arguments and illustrate key findings.

## 5. Text and Headline Formatting:

- Maintain a font size of 12 for the main body of text in the project report.
- Utilize the Helvetica font type for text.
- Apply a font size of 14 for headlines or section headings to ensure clarity and readability.

## 6. Reference Style:

- Utilize APA referencing style for citing sources and compiling your reference list in the project report.

## 7. Submission on Blackboard LMS:

- Submit the ZIP folder containing all project files as a single file submission on the Blackboard Learning Management System (LMS). Ensure that the submission is complete and includes all required components.

## Basic Outline for the Project Report:

### 1. Introduction:

- Overview of the project objectives and scope.
- Brief introduction to Intelligent Transport Systems (ITS) and the importance of the project.

### 2. Literature Review:

- Review of relevant literature and existing solutions in the field of ITS.
- Discussion of key concepts, technologies, and methodologies.

### 3. Methodology:

- Description of the approach and methodologies used in the project implementation.
- Explanation of the software development process and tools utilized.

### 4. Results and Analysis:

- Presentation of project outcomes, including software functionalities and performance metrics.
- Analysis of results and comparison with project objectives.

### 5. Discussion:

- Interpretation of findings and implications for ITS.
- Discussion of challenges faced during project implementation and lessons learned.

### 6. Conclusion:

- Summary of key findings and achievements.
- Reflection on the project's contribution to the field of ITS.

### 7. References:

- List of all sources cited in the project report, formatted according to APA style.

By adhering to these guidelines and providing a comprehensive project report along with the necessary files, you will ensure a successful submission for the ITS project assignment on the Blackboard LMS.

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## Copyright Authenticity Notice

Academic dishonesty and plagiarism are considered serious offences at YooBee Colleges. By completing and submitting this assessment you are authenticating that the work is original and does not violate copyright law. To maintain academic honesty, all submissions will undergo Turnitin scrutiny. Any similarity index exceeding 20% will render the submission ineligible for assessment. To ensure integrity:

- Cite and reference sources properly.
- Use quotation marks for direct quotes.
- Accurately paraphrase and summarize with citations.
- Avoid self-plagiarism and acknowledge collaboration.
- Seek instructor approval for reusing prior work.
- Aim for originality and cite assistance.

Follow institutional policies to align with academic integrity expectations. Plagiarism compromises the educational process and may exclude your work from assessment.

### Due Date/Timeframe

- Submission of this assessment is due in **Week 15**

### Performance Criteria

Criteria & Weightage	LOs	A Range A-   A   A+	B Range B-   B   B+	C Range C-   C   C+	D Range D-   D   D+
Implementation of Intelligent Transportation Technologies (15%)	LO3	Demonstrates comprehensive understanding and effective implementation of intelligent transportation technologies in the development of software information communication systems.	Shows proficient application of intelligent transportation technologies with minor gaps in implementation.	Demonstrates basic understanding but lacks depth in the application of intelligent transportation technologies.	Fails to apply intelligent transportation technologies effectively.
Integration of Emerging Technologies (15%)	LO3	Demonstrates comprehensive integration of emerging technologies within the ITS project, leveraging innovative solutions to enhance system functionality and efficiency.	Integrates emerging technologies effectively, contributing to improved system capabilities with minor gaps in implementation.	Integrates basic emerging technologies but lacks depth or innovation in implementation.	Fails to effectively integrate emerging technologies, resulting in limited improvement in system functionality.
Efficiency Analysis of Intelligent Transportation Systems (15%)	LO4	Conducts thorough analysis of ITS efficiency, identifying key performance indicators and proposing effective solutions for enhancement.	Provides a comprehensive analysis of ITS efficiency with clear identification of strengths and areas for improvement.	Offers a basic analysis of ITS efficiency but lacks depth or clarity in identifying improvement opportunities.	Fails to analyze ITS efficiency effectively, with limited or inaccurate assessment.
System Reliability, Security, and Sustainability (15%)	LO4	Implements ITS solutions that prioritize system reliability, security, and sustainability, ensuring robustness against cyber threats, minimizing environmental impact, and promoting long-term viability.	Addresses system reliability, security, and sustainability in ITS solutions, implementing measures to enhance system resilience, mitigate security risks, and promote environmentally friendly practices with minor gaps in implementation.	Demonstrates basic consideration of system reliability, security, and sustainability in ITS solutions but lacks depth or innovation in implementation, resulting in some vulnerabilities and environmental impact.	Fails to adequately address system reliability, security, and sustainability in ITS solutions, resulting in significant vulnerabilities, environmental harm, or unsustainable practices.
Quality of Project Report (20%)	LO3 LO4	The project report is well-structured, concise, and effectively communicates the project objectives, methodologies, findings, and conclusions.	The project report is adequately structured and communicates the key aspects of the project, though some areas may lack clarity or detail.	The project report is somewhat disorganized or lacks coherence, making it challenging to follow the project's progression and outcomes.	The project report is poorly structured, unclear, or incomplete, hindering understanding of the project's objectives and outcomes.
Clarity and Effectiveness of Presentation (20%)	LO3 LO4	The presentation is clear, engaging, and effectively communicates key project components, including objectives, methodologies, findings, and conclusions.	The presentation provides a satisfactory overview of the project, though some areas may lack clarity or engagement.	The presentation is somewhat unclear or lacks engagement, making it challenging for the audience to follow the project's progression and outcomes.	The presentation is unclear, disorganized, or ineffective in communicating key project components, hindering audience understanding and engagement.