

## Module (Course Syllabus) Catalogue 2023-2024

College/ Institute	Erbil Technical Engineering College	
Department	Highway Engineering Techniques	
Module Name	Highway Safety & Managment	
Module Code	HMS 204	
Degree	Technical Diploma <input type="checkbox"/> Bachelor <input type="checkbox"/> High Diploma <input type="checkbox"/> Master <input checked="" type="checkbox"/> PhD <input type="checkbox"/>	
Semester	2 <sup>nd</sup>	
Qualification	MSc. Construction Management	
Scientific Title	Assistant professor	
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/> Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>	
Weekly hours	2	
Weekly hours (Theory)	( 3 )hr Class	(150) Total hrs Workload
Weekly hours (Practical)	( )hr Class	( )Total hrs Workload
Number of Weeks	12	
Lecturer	Aksana Jihad Mohammed	
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Lecturer (Assistant)	Ahmed Suad Ali	
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Websites		

# Course Book

<p><b>Course Description</b></p>	<p>Increase student knowledge and learn more about safety elements and the way of inspection, regarding crash elements how to predict the crashes, elements of crash, elements of roads and highway, bridges, pavements, road marking and signs, defects of pavement, as well as maintenance</p>
<p><b>Course objectives</b></p>	<ul style="list-style-type: none"> <li>• Understand the basics of highway safety and inspection</li> <li>• Scope of the road safety problem</li> <li>• The impact on public health</li> <li>• The main road traffic crash types</li> <li>• Socio-economic costs of road traffic crashes</li> <li>• Road safety in context</li> <li>• Key developments in road safety</li> <li>• Main elements of roads, pavement and bridges</li> <li>• Highway audit and safety inspection</li> <li>• Bridge inspection and audit.</li> <li>• Safe system goal and strategy and shared responsibility</li> <li>• Building road safety management capacity</li> <li>• The road safety management system</li> <li>• Country management system tool</li> <li>• Implement safe system projects to launch investment strategy</li> <li>• The safe system approaches</li> <li>• Safety and the current transport system</li> <li>• Sustainable safety</li> <li>• Pavement defects and inspection</li> <li>• Safety elements.</li> <li>• Investigation, survey and planning for such projects</li> <li>• The risk that encloses such field</li> </ul>
<p><b>Student's obligation</b></p>	<ul style="list-style-type: none"> <li>• To attend the classes regularly with minimum absence.</li> <li>• To participate actively in the class discussion and Q&amp;A session</li> <li>• Study on daily basis to digest the class material</li> <li>• To write note off-handouts</li> <li>• Prepared for sudden Quizzes</li> <li>• Vet through the references provided by the lecturer and to solve as much as possible of homework and exercises for the subjective materials.</li> <li>• Prepare the assignment and the seminar as instructed by the lecturer.</li> </ul>

<b>Required Learning Materials</b>	<p>Basically, a handout shall be given to the students at the beginning of the academic year as well as soft copy will appear at Moodle. The page-by-page read shall be performed by the lecturer and to illustrate the points with aide of white board whenever necessary. The video clips that illustrate further the subject material shall be illustrated with the aid of overhead projector.</p> <p>Some seminars will be held and a case study will be a case of discuss during the study year</p> <p>If applicable some site visits will be arranged according to the situations.</p>			
<b>Evaluation</b>	<b>Task</b>	<b>Weight (Marks)</b>	<b>Due Week</b>	<b>Relevant Learning Outcome</b>
	<b>Paper Review</b>			
	<b>Homework</b>			
	<b>Class Activity</b>	<b>5</b>	<b>2</b>	<b>Intellectual skills</b>
	<b>Report</b>	<b>5</b>	<b>2</b>	<b>Cognitive skills</b>
	<b>Seminar</b>	<b>10</b>	<b>4</b>	<b>Presentation skills</b>
	<b>Project</b>	<b>N/A</b>	<b>2</b>	<b>Writing skills</b>
	<b>Quiz 2</b>	<b>10</b>	<b>2</b>	<b>understanding skills</b>
	<b>Lab. Report</b>	<b>N/A</b>		<b>Experience of writing and practical skills</b>
	<b>Midterm Exam</b>	<b>20</b>	<b>2</b>	<b>Knowledge and understanding skills</b>
	<b>Final Exam</b>	<b>50</b>	<b>1</b>	<b>Knowledge and understanding skills</b>
	<b>Total</b>	<b>100</b>		
<b>Specific learning outcome:</b>	<p>By the end of the current course, the student shall be able to learn the major activities related to the basics and standardized highway safety and inspection engineering. The student will be capable to identify safety elements for transportation and bridge projects, have a clue about the defects of pavements. Learn maintenance and highway audit as well.</p>			
<b>Course References:</b>	<ul style="list-style-type: none"> <li>▪ Highway Safety Manual 2010</li> <li>▪ Highway Safety Design and Operations Guide, 1997</li> <li>▪ Handbook of Highway Safety Design and Operating Practices, 1978</li> <li>▪ Bridge Inspection and Rehabilitation: A Practical Guide, 1993</li> </ul> <p>The hand book of highway engineering, 2005</p>			

<b>Course topics (Theory)</b>	<b>Week</b>	<b>Learning Outcome</b>
<b>INTRODUCTION TO HIGHWAY SAFETY ENGINEERING AND CRASH INVESTIGATION</b>	<b>1</b>	basic terms, general description of highway safety and crash investigation
<ul style="list-style-type: none"> <li>• Scope of the road safety problem</li> <li>• The impact on public health</li> <li>• The main road traffic crash types</li> </ul>	<b>1</b>	General overview of the road safety problems and impact on public health
<ul style="list-style-type: none"> <li>• Key developments in road safety</li> <li>• Safe system goal and strategy and shared responsibility</li> <li>• Building road safety management capacity</li> </ul>	<b>1</b>	Basics of safety systems and shared responsibilities
•		
<b>HIGHWAY AUDIT &amp; SAFETY INSPECTIONS</b>	<b>1</b>	including general idea about audit and safety inspection of roads and highways
<b>Crash Frequency and crash rates</b>	<b>2</b>	Main methods to calculate crash frequency and crash rates
Analysis and use of data to improve safety	<b>1</b>	<b>Analysis for main safety improvements</b>
<b>Pavement defects and inspection</b>	<b>2</b>	<b>including general description about the main defects of pavement and inspection</b>
<b>Bridge AUDIT &amp; SAFETY INSPECTIONS</b>	<b>2</b>	including general idea about audit and safety inspection of bridges
<b>Safety elements of transportation engineering</b>	<b>1</b>	<b>General standardizing of safety elements</b>

Practical Topics	Week	Learning Outcome
NON		

### Questions Example Design:

### Extra notes:

In spite of the fact that, the topics applied previously sounds rich but the subject itself has a link of the previous study years subjects such as traffic engineering, geometric design, construction methods, bridge engineering and pavement engineering, so the student should get a full info through these subjects in order to maintain a good link to the subject regarding the safety, as for the subject itself a chapter might be added based on the need of students. A site visit might be establish to measure marking and safety elements of roads.

### External Evaluator

The syllabus listed earlier are scientifically and logically demonstrates the highway safety and inspection subject based on subject matter and are satisfactory.

*Rizgar ALi*

Assistant Professor Dr. Rizgar Ali Hummadi