



Project

«Intelligent Transport and Traffic Management study module (IntelTrans)»

Course: ITS solutions for traffic and safety management

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Project IntelTrans

Project “**Intelligent Transport and Traffic Management study module (IntelTrans)**” is carried out within the framework of the program INTERREG Central Baltic under the programme priority specific objective - more aligned vocational education and training (VET) programmes in the Central Baltic region (2020-2022).

Three partners are involved in the project:

- TTK University of Applied Sciences – TTK (Estonia) – leader partner,
- Häme University of Applied Sciences – HAMK (Finland),
- Transport and Telecommunication Institute – TTI (Latvia).

Name of course	ECTS	Short description of the content
Wise mobility	3	Smart mobility refers to using modes of transportation alongside or even instead of owning a gas-powered vehicle. This can take on many different forms, including ride-sharing, car-sharing, public transportation, walking, cycling, and more. The need for smart mobility arose out of increasing traffic congestion and its related side effects, including pollution, fatalities, and wasted time. Formation of the customer's travel chain through traffic nodes into smooth journeys. <i>Course leader for development: HAMK</i>
EU legal bases of traffic management	3	Legislation – local and EU laws, regulations, directives, development strategies. EU fundings (policies); public procurement; governmental management systems (incl. at local government level) Organization management, change management. <i>Course leader for development: TTK</i>
Traffic Safety in environments	3	Data sources; traffic research; Road safety auditing, Road safety inspection. National traffic safety statistics: special aspects. •Pedestrian and cycling traffic safety; street safety: technical solutions to improve the safety of pedestrians and cyclists in city centers. <i>Course leader for development: TTK</i>
ITS solutions for traffic and safety management	3	Essentials of Intelligent Transport Systems: ITS Technologies, ITS applications, ITS architecture, European Framework Architecture. Description of the structure of ITS services, ITS architecture and its deployment in EU on the base of framework approach <i>Course leader for development: TSI</i>
Practical project activities	3	Practical experiments and tests using vehicles equipped with new IT solutions. Using different softwares and modeling. Collecting data, analysing and visualising it for decision making. For example bicycles and public transport equipped with new IT solutions. Project can also be related to street or road safety. Students work together in projects in multinational teams. <i>Course leader for development: TTK (jointly)</i>

Name of Course: **ITS solutions for traffic and safety management**
Course leader for development: **Transport and Telecommunication Institute**

Learning week (LW)	Topics/Readings/Activities
LW 1	Topic 1. Introduction to ITS and C-ITS
LW 2	Topic 2. ITS technologies
LW 3	Topic 3. ITS and C-ITS applications and user services
LW 4	Topic 4. ITS architecture
LW 5	Topic 5. European Framework Architecture
LW 6	Topic 6. ITS standards
LW 7	Topic 7. ITS deployment. Case studies
LW 8	Topic 8. European action plan for ITS deployment

Description of the course

“ITS solutions for traffic and safety management”



The purpose of the course

The purpose of this course is to introduce students to the basic elements of intelligent transportation systems (ITS), focusing on technological, systems and institutional aspects. This course is intended to introduce attendees to systems engineering and provide a basic understanding of how it can be applied to planning, designing, and implementing intelligent transportation systems (ITS) and Cooperative ITS (C-ITS) projects.

Learning Outcomes

The main learning outcomes of the course are:

1. Knowledge of basic ITS terminology.
2. Ability to describe the structure of intelligent systems.
3. Ability to analyse ITS applications and services.
4. Ability to identify the main advantages when using ITS in transport management
5. Know and be able to use the main EU documents in the field of ITS
6. Know examples of practical use of ITS applications to improve the efficiency of transport management
7. Have the skills to develop the main provisions of the ITS implementation master plan

Description of the course

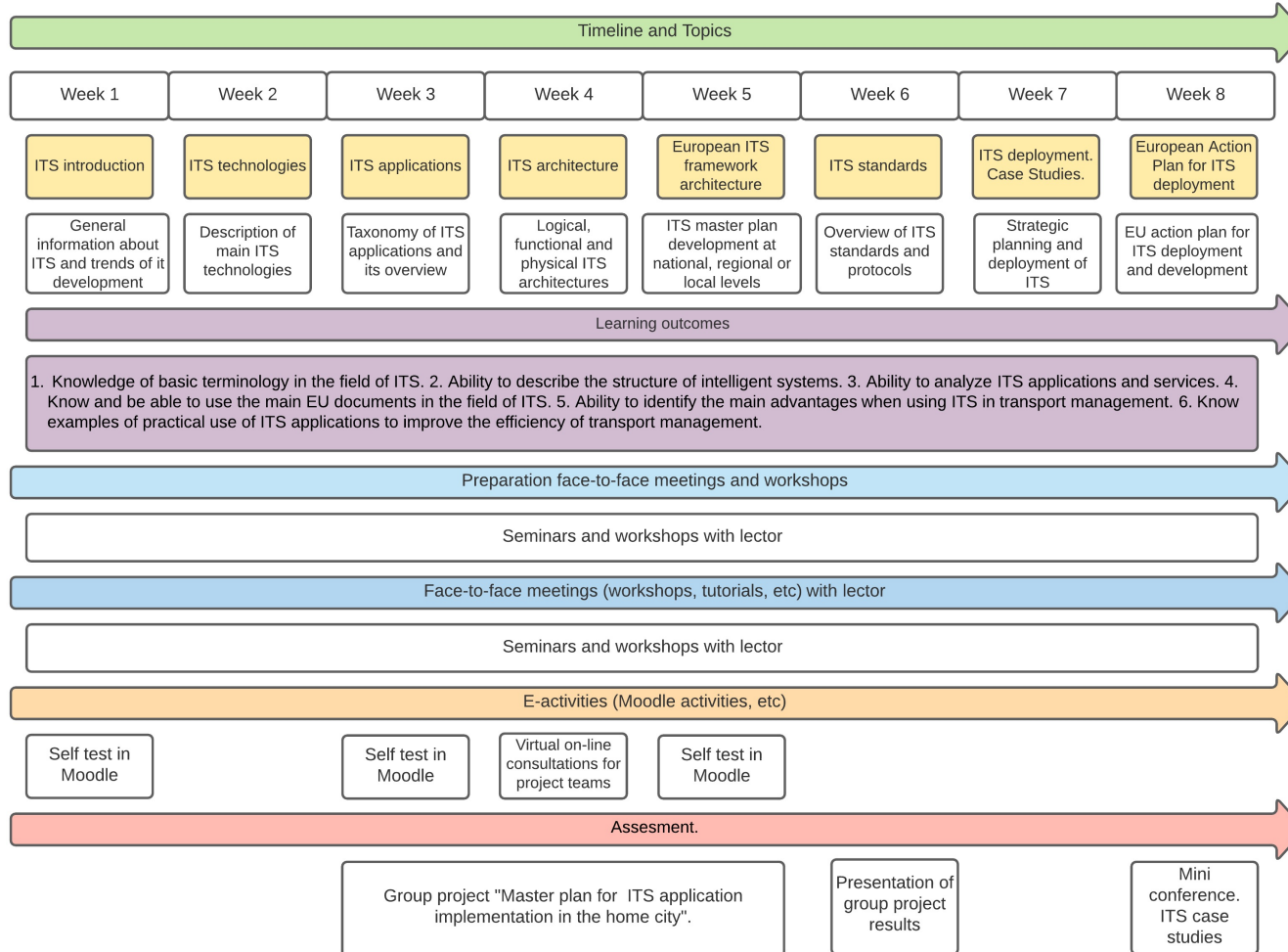
“ITS solutions for traffic and safety management”



The course is designed to meet the increasing demand for transport professionals with advanced skills in sustainable, integrated and intelligent transportation systems. The course will provide you with the fundamental and advanced engineering knowledge that a modern transportation engineer needs for planning and managing the complex multi-modal transport system:

1. To understand ITS conceptually as a macro traffic management system
2. To appreciate the multidisciplinary aspects of ITS, what is feasible and relevant in implementing ITS from multiple contexts.
3. To discuss the enabling role of technology (vehicular technology, infrastructure, information and communication technology, data processing).
4. To understand the operational aspects of ITS lifecycle (conceptualization, design, project management, operations and maintenance, policy and regulation).

Storyboard of the course





Intelligent Transportation Systems

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