Syllabus

Course Description

Course Title	Smart Tourism Laboratory
Course Code	31007
Course Title Additional	
Scientific-Disciplinary Sector	ECON-07/A
Language	English
Degree Course	Master in Tourism Management
Other Degree Courses (Loaned)	
Lecturers	Prof. Dr. Oswin Maurer, oswin.maurer@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/973 Prof. Claudia Cozzio, Claudia.Cozzio@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/42530
Teaching Assistant	
Semester	All semesters
Course Year/s	2
CP	9
Teaching Hours	54 (18 Prof. Maurer Oswin + 36 Prof.ssa Claudia Cozzio)
Lab Hours	-
Individual Study Hours	-
Planned Office Hours	27 (9 Prof. Maurer Oswin + 18 Prof.ssa Claudia Cozzio)
Contents Summary	Smart Tourism Laboratory provides students with a comprehensive understanding of smart solutions currently available to tourism businesses and destinations. Apart from designing and developing applicable smart solutions for the tourism sector, the course also introduces students to ethical and societal issues related to the use of current and future technologies in tourism and hospitality.

Course Topics	Part 1: The first part of the course (18 hours) will start with a brief history of AI developments in tourism and hospitality, its current state, and a future outlook. Emphasis will be on most important aspect of AI as a multi-use technology and the two primary methods for how an AI system 'learns' to perform a task (Machine Learning -ML, Deep Learning – DL). It also includes discussions on how AI algorithms can be 'trained' - supervised learning, unsupervised learning, reinforcement learning. As 'big data' is a prerequisite for AI, its main characteristics - volume, velocity, variety and veracity (4 V's) are discussed, as well as its types of repositories – data warehouse, data lakes, data lakehouses. This is followed by a discussion about the principal analytical approaches used: descriptive (what, where and when), diagnostic (why) and prescriptive (how) analytics. Key benefits of implementing AI in travel, tourism and hospitality industry practice, its challenges, and the ethics involved will provide for the insights necessary to work through part two (36 hours) of this course which is focussed on specific issues and applications in tourism and hospitality and will also involve practical development work of students particpating in that course, as well as guest lectures with industry experts. Part 2: The second part of the course (36 hours) introduces the hospitality technology ecosystem, providing a structured overview of how digital transformation is reshaping the industry. Students will explore the fundamentals of metaverse, AR/VR, and blockchain technologies, with a focus on their practical implications for guest engagement and service innovation. The course then analyzes the impact of Industry 4.0 on the customer experience, highlighting how automation, connectivity, and data integration are changing service delivery across tourism and hospitality contexts. Building on these foundations, the course also focuses on the empirical applications of smart technologies in hospitality operations - ranging from smart rooms and automated services to predictive analytics tools. Special attention is given to smart applications for sustainable tourism, showing how intelligent systems can support more efficient, low-impact operations. Finally, the course explores the link between hotel technology and startup development, offering insights into how tech-driven

	innovation is fueling new business models. This phase includes practical project work.
Keywords	Part 1: AI, tourism businesses, methods and theory, ethics Part 2: Smart technologies, tourism and hospitality, AI applications
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	Frontal lectures, exercises, labs, guest lectures and projects
Mandatory Attendance	-
Specific Educational Objectives and Learning Outcomes	INTENDED LEARNING OUTCOMES (ILO) ILO 1: KNOWLEDGE AND UNDERSTANDING ILO 1.1 The student/trainee acquires specific competences and skills to deal with management issues from the perspective of the management of tourism enterprises, the development and promotion of tourism destinations and the planning and management of integrated tourism systems and individual services in strategic, organisational and administrative terms with an international and intercultural perspective. ILO 1.2 The student acquires the ability to identify and analyse tourism-induced environmental and social problems and to understand their interdependencies and contexts, applying theories and methods and developing explanatory approaches. ILO 2: ABILITY TO APPLY KNOWLEDGE AND UNDERSTANDING ILO 2.1 The student/undergraduate acquires the ability to understand and analyse the problems characterising the tourism sector through the application of theories and models and the adoption of appropriate tools for the management of tourism enterprises. ILO 2.2 The student/undergraduate acquires the ability to use models for the analysis of the tourism market. ILO 2.3 The areas of knowledge application encompass the micro, meso and macro levels and include the acquisition of skills necessary for policy advice and business strategy development. ILO 2.4 In addition, there are skills that have their basis in behavioural economics, decision theory and consumer behaviour research, skills that are particularly important in empirical analysis, as well as in ex-ante forecasting and scenarios in the context of

	future-oriented questions. ILO 2.5 The skills developed can be applied in regional, national and international contexts. ILO 2.6 The development and promotion of competences also include the ability to present complex and socially relevant issues and results in a precise and coherent manner, but in a comprehensible and target-group-oriented manner ILO 3: AUTONOMY OF JUDGEMENT ILO 3.1 Acquire the ability to select data and use appropriate information to describe an issue concerning the management of tourism businesses as well as tourism associations and destinations ILO 3.2 Acquire the ability to relate models and empirical evidence in the study of tourism businesses, tourism associations, consortia and destinations ILO 4: COMMUNICATION SKILLS ILO 4.1 The Master's degree graduate will be able to communicate effectively in oral and written form the specialised content of the individual disciplines, using different registers depending on the recipients and the communicative and didactic purposes, and to evaluate the formative effects of his/her communication. Written and oral communication skills are particularly developed in the training activities carried out for the preparation of the Master's thesis, in the discussion of business cases and in interactive lectures involving group discussions and the comparison of individual analyses. ILO 5: LEARNING SKILLS ILO 5.1 To identify thematic connections and to establish relationships between different cases and contexts of analysis ILO 5.2 To frame a new problem systematically and generate appropriate taxonomies. ILO 5.3 To develop general models from the phenomena studied.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	The assessment will include a mix of project work and written exam.

	Attending Students Knowledge and skills acquired in the course will be assessed via: - a written exam - a team project work (plus in-class presentation) Presentations in class have the objective to stimulate discussion with peers, to assess the students´ ability to evaluate relevant situations, settings and data, to make recommendations, to take decisions, to apply tourism management and marketing knowledge and to successfully communicate outcomes to a qualified audience. (ILO 1, ILO 2.1, ILO 2.2, ILO 2.3, ILO 4, ILO 5.1) The final written exam (60%) will consist of four essay style questions, allowing to evaluate the knowledge acquired on smart tourism development and implementation, concepts, models, techniques and tools presented and discussed in class, as well as the students´ ability to apply them to a variety of settings. (ILO 1, ILO 2.1, ILO 2.2, ILO 3.1, ILO 3.2, ILO 5) The final exam for attending students will be scheduled to last for up to 80 minutes. Results of the project works are valid for the actual academic year only and results of these activities cannot be carried over beyond that time frame. Non-Attending Students Knowledge and skills acquired in the course will be assessed via: - a written exam (100%). The final written exam (100%) will consist of six essay style questions, allowing to evaluate the knowledge acquired on smart tourism development and implementation, concepts, models, techniques and tools presented and discussed in class, as well as the students´ ability to apply them to a variety of settings. All ILOs are assessed (ILO 1-5) The final exam for non-attending students will be scheduled to last for up to 120 minutes.

	Any student (attending or non-attending) discovered plagiarising or engaging in dishonest academic conduct will fail the course and regulations of the Faculty on academic misconduct will apply.
Evaluation Criteria	Attending Students - Project work 40% - Exam 60% (80 minutes) Criteria to be used in evaluating projects: - creativity in problem solving, - ability to programme applied solutions, - data analysis skills, - contextualisation and comparative evaluation, critical thinking, - ability to summarise and communicate findings; Project work is valid for 1 academic year and cannot be carried over beyond that time-frame. Criteria to be used in evaluating the final written exam: - relevance and clarity of answers, - ability to contextualise and to comparatively evaluate, - ability to evaluate, summarise, compare and contrast models, topics and data; Please note: project papers have to be written according to scientific standards with all sources to be cited. Unreferenced use of sources will be considered as plagiarism according to the examination regulation. Non-attending students 100% Exam (120 minutes) Criteria to be used in evaluating the final written exam: - relevance and clarity of answers, - ability to contextualise and to comparatively evaluate, - ability to evaluate, summarise, compare and contrast models, topics and data.
Required Readings	readings will be made available during the Smart Tourism

	Laboratory hours
Supplementary Readings	supplementary readings will be made available during the Smart Tourism Laboratory hours
Further Information	
Sustainable Development Goals (SDGs)	Quality education, Responsible consumption and production, Industry, innovation and infrastructure