Master of Science (MSc) in Smart Technologies in Hospitality and Tourism

Programme Description

The Master of Science (MSc) in Smart Technologies in Hospitality and Tourism focuses on the core areas of technology and interrelated areas of management. The core areas include robotic applications, artificial intelligence-based internet of things (AIoT), business analytics, sustainable design in cities, and environmental technologies. The interrelated areas of management are financial feasibility, adoption/project planning and implementation details of technologies. The programmes are designed to prepare graduates to advance their career in the hospitality and tourism industry, in the context of smart technology and business analytics.

Programme Aims

The programme aims to provide higher education with an emphasis on knowledge delivery about state-of-the-art technologies applicable in the hospitality and tourism industry. It is hoped that the programme equips graduates with a computational mind and technological skills to work in a technology-enabled and data-driven industry environment.

Programme Objectives

✓ To provide technology-based education that is interdisciplinary and responsive to new developments in the field.
✓ To equip students with technical knowledge and skills required to upkeep and upgrade the technological level of the hospitality and tourism industry.
✓ To develop students into professionals capable of contributing to the efficient and sustainable development of hospitality and tourism through the use of new technologies.

Programme Highlights

✓ Seamless conversion: highly customisable based on individual students' needs, all credits from PgD programme can be converted to MSc degree programme.
✓ Possibility of taking up to 9 credit hours of taught courses from selected postgraduate programmes offered by higher education institutions recognised by IFTM.

Modules and Courses

Course Category	Credit (Total: 30 credits)
Immersion *(3 credits)* • Introduction to Technology in Tourism • Technical Visit	3
Technology *(3 credits / course)* • Data Analytics and Visualization • AIoT and Robotics • Geographic Information Systems • Smart Destination and Sustainable Tourism Development • Smart Marketing	15
Elective *(3 credits / course, choose any two courses below)* • Research Methods • Strategic Management • Big Data Analysis • Seminar in Emerging Technologies • Finance and Accounting	6
Project Report _OR_ Internship & Report* *(6 credits/ 6 credits)*	6

* The Project Report OR Internship & Report must be related to the programme, and should be conducted after the successful completion of all taught courses. If students choose Internship & Report, the total internship hours must be at least 600 hours.

Remarks:
- *PgD graduates can complete the additional required credits and top up to the corresponding MSc degree no later than 7 years upon completion of the PgD. Applicants should note that there may be changes to the curriculum, top-up requirements and completion duration in the interim, subject to the approval of IFTM.*
- *Undergraduate business or hospitality degree holders without strong computer science or IT background are also welcomed to apply.*
- *Some course materials may be co-delivered by a third-party collaborator whereas IFTM assumes the primary responsibility of its teaching quality and excellence.*

Course Description

Module	Course Title	Course Description
Immersion	Introduce to Technology in Tourism	Business analytics is a fast-changing field. Its methodology and application tend to improve continually. This course aims at introducing fundamental skills required for analytical studies in this programme, thus suitable for students from different background. With the support of online studying platforms, students will learn state-of-the-art data skills under the guidance of the instructor.
	Technical Visit	This course provides technical visits for students to Information Technology-oriented organisations, trade shows, exhibitions, or hospitality and tourism properties within the context of business analytics and technological applications. This activity encourages students to understand and examine the best practices of business analytics and technologies in different sectors and germinate ideas for their dissertation.

Module	Course Title	Course Description
Technology	Data Analytics and Visualization	With the advancement in IT, numerous social media have emerged and brought us high-volume, high-velocity data of various types, resulting in the big data phenomenon. This course is a contemporary study about how to obtain relevant content from big data and generate useful results, where analysts can interpret the data to understand the trends and to perform predictive analyses. Data analytics and visualisation is an emerging field concerned with analysing, modelling, and visualising complex high-dimensional data. This course will introduce state-of-the-art modelling, analysis and visualisation techniques. It will emphasise practical challenges involving complex real-world data and include several case studies and hands-on work with visualisation tools.
	AIoT and Robotics	Hospitality industry is often a "boot camp" for introducing new technologies to revolutionise its operations. Hotel properties are often innovative labs for new technologies. This course aims at introducing the principle of AI with Internet of Things (AIoT) and Robotics. In addition, practical robotics case studies and solutions will be reviewed. Students will gain experience in designing and deploying smart technologies in this fast-changing industry and generate new ideas for hotels. Topics include: introduction to AI and Internet of Things, overview of sensor technology, operational studies in hospitality and tourism management based on AI and robotics, case studies, and examples. The competence in AIoT and its systems development requires the basic concepts of AIoT, fundamental programming skills, management of such projects, as well as practical knowledge on system integration between AI and IoT projects.
	Geographic Information Systems	This course is designed to familiarise students with the fundamentals of geographic information system (GIS) and how geodata can be applied to solve local and regional problems, where "locations" matter the most. Major topics include computer representation of geodata, the creation and maintenance of GIS databases, spatial analysis, and presentation of data outputs on digital maps. Case studies, management implications, and relevant GIS research papers are also discussed to complement the practical use of GIS applications.
	Smart Destination and Sustainable Tourism Development	Smart Destination is a local system characterised by advanced services, a high degree of innovation through a considerable use of ICTs and the presence of open, multipolar, integrated and shared processes directed at enhancing the quality of life for both residents and tourists. This course is designed to introduce the topic of smart approach in tourism destinations and to opportunities offered by a rapid diffusion of smart technology for sustainable development. Based on the four pillars of sustainability: economic, social, cultural and environmental, the course discusses the utilization of smart technologies to improve the quality of life and facilitate friendly interactions between people, organisations and the city itself.
Technology	Smart Marketing	This course reviews the role of traditional marketing channels, its relationship with smart technologies, and the shift to a next-generation marketing mindset driven by information technology. The course also teaches practical skills to undertake a digital transformation in marketing. After this course, students will be able to address different marketing needs with digital means.

Module	Course Title	Course Description
Elective	Research Methods	This course aims to develop students' intermediate levels of understanding and skills enabling them to apply different methods of research to address broad real-life management problems and also in the specific context of hospitality and tourism. At the end of the course, students will be expected to have obtained the necessary knowledge and confidence in applying the most established research methodologies, following the basic framework of identifying research problems, formulating appropriate research design, conducting scientific data collection and analysis, as well as interpreting, presenting, and communicating research findings.
	Strategic Management	This subject provides an opportunity for managers (or future managers) of hospitality and tourism companies to understand, apply, develop, and critically evaluate business strategies. It also offers an understanding and critical evaluation of the factors that contribute to successful strategic management. Common strategies in the hospitality and tourism industry are embedded in the course content. Real hospitality companies will be invited to showcase real life strategies and co-develop solutions.
	Big Data Analysis	The emergence of social networks, Internet of Things, cloud computing and sensor technology has led to the unprecedented flooding of unstructured data, often characterised by its high volume, high variety and high timeliness. It is important to develop a competence in understanding and making use of unstructured data to stay ahead of the competition. This course introduces the fundamentals of data analysis in a big data spectrum.
	Seminar in Emerging Technologies	This course explores how technology has reshaped the hospitality and tourism landscape. Being a crucial part of today's tourism and travel industry, technology continues to improve customer experience to a new height. This course aims to deliver concepts, knowledge and skills relevant to emerging technologies and to share insights on their applications and managerial implications. Relevant case studies, challenges, and legal and governance issues related to the latest technology in the tourism industry will also be discussed.
	Finance and Accounting	This course helps students understand the principles of financial and efficiency analysis, and demonstrates their importance in management decision-making for hospitality and tourism businesses. The course will enable students to apply accounting approaches and analyses in making decisions to procure technologies and assess their performance. Students will also be able to understand, analyse, and interpret financial information to aid management decisions.

Module	Course Title	Course Description
Project Report _OR_ Internship & Report	Project Report	The purpose of this course is to help students build and demonstrate their abilities to conduct an independent applied project using appropriate research techniques. Students have to identify a business or industry problem, conduct research and propose practical solutions or create new applications for business/industry development in general or for enterprises in particular.
	Internship & Report	Applying the principles of experiential learning, this course provides students an extended opportunity to connect theoretical knowledge and practical learning through training in a real work environment. After the internship, students need to complete a report to deeply reflect on the gains from the training in knowledge, skills, attitudes and values, and make suggestions for improving business practices.