

Master of Science in Digital Business and Innovation

Fact Sheet

Overall Program Description

In today's interconnected world, digital technologies are revolutionizing businesses. This transformative era, often described as "disruptive" and "turbulent", is marked by rapid technological advancements, shifts in consumer behavior, and the evolution of business models. Understanding and mastering these changes – from data analytics to AI, e-commerce, and beyond – is vital. Our program not only offers the tools to navigate this VUCA (Volatile, Uncertain, Complex, and Ambiguous) world but also to thrive in it, turning challenges into opportunities through knowledge, mindset, and capability development.

OPIT's MSc in Digital Business and Innovation equips students for the dynamic digital economy. This program blends foundational knowledge with practical skills across three terms. The first term lays the groundwork with digital business basics, rudiments of data science and AI, digital business models, project management and digital marketing. The second term advances into strategy, covering digital finance, platform management, digital product management and digital transformation. The final term emphasizes execution, culminating in a capstone project and dissertation on a real-world case study. Whether launching a startup or driving digital transformation in established firms, our program prepares graduates for the forefront of digital business.

The program main objectives are:

Knowledge Creation: To equip students with the technical skills to understand disruption, build a digital business, create customer value and leverage an ecosystem logic.

Ethical Responsibility: To instill a strong purpose-driven approach to understanding digital technologies' ethical implications and social responsibilities.

Mindset: To learn and apply a mindset that allows future-proof leadership. This involves human needs and ethical values through scalable and impactful applications.

Target Audience

Ages 19 – 30 Age 31 – 65
Age 65+

Target Group

The target audience for this program includes:

- Working Professionals. Whether seeking to formalize existing digital expertise or to embark on a new journey in digital business, this program is ideal for professionals aiming to lead digital transformations or excel in digital-native environments.
- Recent Graduates aspiring to specialize in the vibrant field of digital business.
- Entrepreneurs and Visionaries keen on launching or managing startups and businesses in the digital arena.

Entry Requirements

The admission requests from new applicants are received by the Students Secretary Office, which will conduct an interview with the applicants.

Students will need to provide the following documents for admission:

1. Updated CV in English;
2. Copy of a valid ID (front and back);

Qualifications:

3. University degree (MQF level 6 or higher) in a Science, Technology, Engineering, and Math (STEM) field, Economics, Business, Law, Liberal Arts, Medical Sciences.

Since all OPIT programs are taught in English, a proof of language proficiency is needed. Any of the following options is accepted as a proof of English proficiency:

1. Being a English native speaker;
2. Having completed a previous degree entirely taught in English;
3. Having passed one of the following English tests:
 - TOEFL (minimum 80 points)
 - IELTS (minimum Level 6)
 - Duolingo English Test (minimum 95 points)
 - Cambridge Certificate (minimum B2 grade overall)

Students, who do not hold the requested level must sit for the English Entry Test in order to certify the students' competences.

All the enrolled students will follow an Induction Module before the beginning of the chosen training. This will explain to the student all the policies and procedures outlined in this handbook, and specific information related to the training, such as learning outcomes and expectations.

Study Guidelines will also be shared. Induction will also include a handbook and/or a tutorial lesson related to the different functionalities of the Virtual Learning Environment and how to use it. If students have any specific requirements or needs, they should inform the Students Support Office.

During the admission process of students wishing to enroll to the program, we will also ensure that such students have the required basic digital competence to successfully complete such a course. We will do so by administering to such students a standardized questionnaire that will cover aspects including, but not limited to: the availability of a PC with a webcam and speakers, the availability of an adequate internet connection, basic knowledge of operating systems and web browsers.

The program is designed by assuming some baseline proficiency in information technology and business fundamentals. To this end, the program offers an entry path that allows to fill possible gaps in terms of such requirements.

Direct Entry: A bachelor's degree (180 ECTS EQF/MQF level 6) from an accredited institution with a proven record of knowledge of basic information technology and business topics. Notably, the Direct Entry path assumes candidates are familiar with the following topics::

Business and ICT Fundamentals

Topics: Overview of the Business World, Sectors, Functions, and Societal Impact; Financial Basics; Marketing Fundamentals; Elements of Computer Systems; Elements of Computer Networks; Elements of Computation.

Alternative Entry: Applicants who hold degrees (at least a BSc with 180 ECTS EQF/MQF level 6) without a proven record of knowledge of basic information technology and business topics. In order to ensure success in the program, such applicants will be required to undergo specialized assessments to evaluate their foundational skills. The Basic Competencies Assessment (BCA) will be based on the following preparatory module, which is offered free of charge during summer, before the start of the first Term:

Business and ICT Fundamentals

Topics: Overview of the Business World, Sectors, Functions, and Societal Impact; Financial Basics; Marketing Fundamentals; Elements of Computer Systems; Elements of Computer Networks; Elements of Computation.

The BCA consists of a test with a mix of multi-choice and open-ended questions. If a student fails more than 50% of the questions, the test is considered as failed. Students not clearing the BCA will have an opportunity for a retake after a dedicated period of remedial guidance, within the same academic year.

Recognition of Prior Learning

OPIT recognizes previous academic and professional experience in different ways. Procedures that describe the mechanisms related to admission and RPL are entirely described at the following webpage:

<https://www.opit.com/fee-admission/>

**Learning Outcomes
for Knowledge
obtained at the end
of the programme**

The learner will be able to:

- a) Recall foundational Data Science and Artificial Intelligence principles and their relevance in contemporary digital ecosystems
- b) Describe market trends, consumer behavior, and emerging technologies to identify opportunities and anticipate changes in the digital marketplace
- c) Ideate and manage complex digital products and their business models
- d) Manage digital transformation projects
- e) Recall e-commerce strategies, digital marketing techniques, and online brand management to drive visibility and growth
- f) Describe risks, regulatory compliance, and ethical considerations in digital business operations
- g) Identify innovation, adapt to technological advancements, and implement agile methodologies for continuous improvement and adaptation
- h) Describe the global impact of digitalization on businesses, economies, and societies, and navigate the complexities of international digital markets

**Learning Outcomes
for Skills obtained at
the end of the
programme**

The learner will be able to:

- a) Demonstrate a holistic understanding of the digital business landscape, encompassing concepts, tools, and strategies relevant to the digital economy
- b) Show and articulate strategic approaches for leveraging digital technologies to enhance business operations, marketing, and overall competitiveness
- c) Design and manage digital transformation initiatives within organizations, aligning technology with business objectives
- d) Develop an entrepreneurial mindset by exploring innovative business models, disruptive technologies, and opportunities for new ventures in the digital space
- e) Use collaboration, communication, and leadership skills necessary to lead multidisciplinary teams in digital initiatives and projects
- f) Apply the power of data analytics to make informed decisions, derive insights, and optimize business processes in the digital context
- g) Design strategies to enhance customer experiences, engagement, and satisfaction through digital channels and personalized interactions

90 ECTS

Hours of Total Learning

1 ECTS is equivalent to 25 total hours of learning, inclusive of contact hours, supervised placement and practice hours, self-study hours and assessment hours.

<p>Total Contact Hours ¹ 509</p> <p>(Contact Hours are hours invested in learning new content under the Direction of a tutor/lecturer (e.g. lectures, participation in online forums, video-lectures)</p>	<p>Supervised Placement and Practice Hours 504</p> <p>(During these hours the learner is supervised, coached, or mentored. Tutorial hours may be included here)</p>
<p>Self-Study Hours 1109</p> <p>(Estimated workload of research and study)</p>	<p>Assessment Hours 128</p> <p>(Examinations/ presentations/ group work/ projects, etc.)</p>
<p>Total Learning Hours 2250 Hours</p>	

120 ECTS

Hours of Total Learning

1 ECTS is equivalent to 25 total hours of learning, inclusive of contact hours, supervised placement and practice hours, self-study hours and assessment hours.

<p>Total Contact Hours ² 690</p> <p>(Contact Hours are hours invested in learning new content under the Direction of a tutor/lecturer (e.g. lectures, participation in online forums, video-lectures)</p>	<p>Supervised Placement and Practice Hours 640</p> <p>(During these hours the learner is supervised, coached, or mentored. Tutorial hours may be included here)</p>
<p>Self-Study Hours 1540</p> <p>(Estimated workload of research and study)</p>	<p>Assessment Hours 130</p> <p>(Examinations/ presentations/ group work/ projects, etc.)</p>
<p>Total Learning Hours 3000 Hours</p>	

¹ In the case of online learning, synchronous and asynchronous learning activities under the direction and control of an instructor are considered as contact hours.

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The Program Structure						
Module/ Unit Title	Compulsory (C) or Elective (E)	ECTS	MQF Level	Mode of Teaching	Mode of Assessment	Term
Data Science and Artificial Intelligence in the Digital Economy	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	1
Digital Business Strategy	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	1
Customer Value Management	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	1
Business Problem Solving	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	1
Digital Project Management	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	1
Entrepreneurship and Finance for the Digital Economy	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	2
Maximizing Impact in the Digital Economy	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	2
Digital Platforms and Ecosystems	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	2
Digital Product Management	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	2
Digital Transformation Management	Compulsory	6	7	Live lectures, asynchronous contents	Exercises, Tests	2
Research Methods and Tools	Compulsory	3	7	Live lectures, asynchronous contents	Exercises, Tests	2
Capstone Project and Dissertation - for students completing MSc at 90 ECTS	Compulsory	30	7	-	Project, Dissertation	3
Capstone Project and Dissertation - for students completing MSc at 120 ECTS	Compulsory	60	7	-	Project, Dissertation	3 - 4
Total ECTS for Program Completion		90/120 ECTS				

**Data Science and
Artificial Intelligence
in the Digital
Economy**

Compulsory

6 ECTS

Term 1

Course Description

Data Science (DS) encompasses the collection, processing, analysis, and interpretation of vast amounts of data to extract meaningful insights, patterns, and trends. It involves employing statistical techniques, machine learning algorithms, and domain knowledge to make data-driven decisions and predictions. DS plays a pivotal role in transforming raw data into actionable information, facilitating informed decision-making across various industries. Artificial Intelligence (AI), on the other hand, refers to the simulation of human intelligence processes by machines, enabling them to perform tasks that typically require human intelligence. AI systems learn from data, adapt to new information, and make autonomous decisions. It includes subfields such as machine learning, natural language processing, computer vision, and robotics, among others. AI technologies empower machines to perceive, reason, and act, driving advancements in automation, personalization, and problem-solving.

The module aims to showcase powerful tools and methodologies used to derive insights, automate processes, and drive innovation in today's interconnected world.

Topics include:

- Principles of DS and AI
- Challenges and Opportunities in the Digital Economy
- DS and AI Algorithms for Business Solutions
- Applications of DS and AI
- Big Data Technologies and their Economic Impact.
- Ethical and Social Implications of AI in Business.

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Demonstrate pros and cons of main DS and AI methodologies
- b) Demonstrate the social impact of AI-driven decisions on stakeholders and society at large
- c) Show the economic impact of Big Data on businesses, innovation, and competitiveness

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Apply the methodologies, techniques, and tools used in DS and AI and related applications
- b) Assess the impact of DS and AI advancements on business models and market dynamics
- c) List the main ethical challenges posed by AI

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Digital Business
Strategy**

Compulsory

6 ECTS

Term 1

Course Description

In the ever-evolving digital landscape, crafting an effective business strategy is not merely a choice; it is a necessity. This comprehensive course on Digital Business Strategy is designed to empower professionals, entrepreneurs, and business leaders with the insights, tools, and frameworks needed to navigate the complexities of the digital era successfully.

Topics include:

- Introduction to Business Strategy
- Digital Disruption and Sustaining Competitive Advantage
- Crafting Digital Business Models
- Innovation and Leveraging Emerging Technologies
- Strategic Planning for Digital Transformation
- Competitive Strategies in the Digital Environment
- Concept and Types of Exponential Organizations
- Critical Thinking Skills

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Develop strategies for sustaining competitive advantage amidst digital transformations
- b) Apply different business strategies effectively in digital business contexts
- c) Analyze different types of exponential organizations and their key characteristics
- d) Apply critical thinking methodologies to solve complex problems in the digital environment

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Create plans and methodologies to sustain a competitive advantage amidst ongoing digital transformations, ensuring continued success and relevance
- b) Effectively deploy a range of business strategies tailored for digital landscapes to maximize impact and adaptability
- c) Analyze distinct categories of exponential organizations, exploring their fundamental characteristics and operational attributes

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Customer Value
Management**

Compulsory

6 ECTS

Term 1

Course Description

In a customer-centric business landscape, understanding and delivering value to customers is paramount for sustained success. This course on Customer Value Management is designed to equip professionals, marketers, and business leaders with the knowledge and strategies to optimize customer value and foster long-term relationships. By incorporating theoretical frameworks, case studies, and interactive discussions, students will gain the insights and strategies necessary to identify, create, and deliver effective value propositions, driving customer satisfaction and organizational success.

Topics include:

- Understanding Customer Value: Definition, Key Value Drivers, Relationship with Business Success
- Digital Marketing for Long vs Short Term Business Goals
- Customer Lifetime Value (CLV)
- Digital Customer Relationship Management (CRM)
- Digital Marketing Strategies and Growth Hacking

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Calculate and interpret CLV to understand the economic worth of acquiring and retaining customers
- b) Develop strategies to enhance CLV through effective customer management practices
- c) Develop CRM strategies that leverage digital platforms

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Create various digital marketing strategies, including content marketing, SEO, social media, and PPC, for driving growth
- b) Use growth hacking techniques to rapidly experiment and optimize digital strategies for accelerated business growth

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Business Problem
Solving**

Compulsory

6 ECTS

Term 1

Course Description

Today, most of the organizations in virtually every industry generate a huge quantity of data, most of which is unstructured and not immediately interpretable. The capability to generate meaningful information, extrapolate insights and then make them available to stakeholders in order for them to make informed decisions, create better products, improve operations and measure results, is what ultimately allows us to make progress and grow. The Business Problem Solving module teaches how to fill the gap between decision making and technical units, training students to function as intermediaries between the two worlds.

Topics include:

- How to Tackle Business Problems
- Data-Driven Business Problem Solving
- Agile Problem Solving
- Data Governance and Quality Management
- Competitive Advantage of Data
- Data Science Leaders
- Crisis Communication

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Use strategies to maintain data integrity and governance practices within organizations
- b) Apply iterative problem-solving techniques to rapidly respond to changing business landscapes
- c) Apply agile problem-solving methodologies, fostering adaptability and responsiveness in addressing business challenges
- d) Analyze case studies to understand how businesses use data for strategic advantage and innovation
- e) Use effective communication strategies to navigate crises and challenges that impact businesses

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Implement strategies for upholding data integrity and governance within organizations
- b) Employ iterative problem-solving methods to swiftly address evolving business environments
- c) Utilize agile problem-solving approaches, encouraging flexibility and responsiveness in tackling business challenges
- d) Examine case studies to grasp how companies employ data for strategic gains and innovative initiatives
- e) Apply efficient communication tactics to navigate business-impacting crises and challenges

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

a) N/A

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**Digital Project
Management**

Compulsory

6 ECTS

Term 1

Course Description

In today's fast-paced digital landscape, managing projects requires more than traditional methodologies. Digital Project Management represents the fusion of traditional project management practices with innovative digital tools and approaches. This course caters to professionals aspiring to excel in digital project management roles. By incorporating practical case studies, hands-on exercises, and interactive sessions, participants will acquire the skills and knowledge necessary to manage, execute, and deliver successful digital projects while adhering to timelines, budgets, and quality standards.

Topics include:

- Introduction to Project Management
- Project Management Methodologies
- Introduction to Agile, Scrum, and Kanban
- Risk Management
- Project Boundaries and Resources
- Project Governance
- Project Execution
- Agile metrics
- Project Management Information Systems.
- Project Management Maturity Model.
- Effective Managerial Communication

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Apply the theoretical elements of project management to real-life scenarios
- b) Use project management techniques to ensure an effective governance and organizational set-up
- c) Ascertain the principles of accountability and competency through the use of rigorous project management methodologies
- d) Create detailed project management plans taking into consideration every aspect
- e) Compose calculated recovery action plans in order to tackle variances which might arise
- f) Verify data sources and privacy regulations

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Explain how project management works and apply it in different contexts
- b) Practice the complex functions of project management and quality assurance methodologies
- c) Design project management plans
- d) Create effective managerial communications

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Entrepreneurship and
Finance for the Digital
Economy**

Compulsory

6 ECTS

Term 2

Course Description

In the rapidly changing terrain of the digital economy, the fusion of entrepreneurship and finance serves as the cornerstone for driving innovation and fostering sustainable progress. This course in Entrepreneurship and Finance for the Digital Economy is designed to equip and embolden individuals – from budding entrepreneurs to seasoned finance professionals – with the indispensable tools, strategic methodologies, and profound insights essential to not just survive but flourish within the intricate dynamics of the digital era. By dissecting the intricate interplay between entrepreneurial endeavors and the financial underpinnings that support them, participants gain more than theoretical knowledge; they acquire practical wisdom. From deciphering emerging market trends to mastering the art of securing funding in a digital ecosystem, the course acts as a compass, guiding individuals toward harnessing the power of innovation and capital in a symbiotic dance that propels businesses forward.

Topics include:

- Global Scenario and Business Evaluation Methods.
- Principles of Finance in the Digital Economy
- Financial Planning and Analysis in Digital Businesses: Budgeting, Forecasting, Financial Models, Valuations, Scalability, Profitability
- Digital Currencies and Payment Systems: Blockchain and E-Wallets
- Funding Digital Ventures: Sources of Funding, Venture Capital and Angel Investing, Crowdfunding and Alternative Methods
- Startup and Entrepreneurship: From Ideation to Planning and Execution

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Use the mechanics and functionalities of digital currencies, blockchain technology, and e-wallets, and assess their impact on modern payment systems and financial transactions
- b) Apply evaluation methods to assess market opportunities and industry trends
- c) Apply advanced financial planning techniques, including budgeting, forecasting, financial modeling, valuations, scalability, and profitability analysis, tailored for digital enterprises
- d) Develop skills to craft effective pitches and secure funding critical for scaling digital initiatives
- e) Interpret financial data to optimize business strategies and drive sustainable growth in digital environments

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Demonstrate the functionalities of digital currencies, blockchain technology, and e-wallets, and evaluate their influence on contemporary payment systems and financial transactions
- b) Implement sophisticated financial planning methodologies, encompassing budgeting, forecasting, financial modeling, valuations, scalability, and profitability analysis, specifically designed for digital enterprises
- c) Create compelling presentations and secure crucial funding pivotal for expanding digital projects
- d) Analyze financial information to refine business tactics and foster lasting growth within digital settings

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Maximizing Impact in
the Digital Economy**

Compulsory

6 ECTS

Term 2

Course Description

In today's rapidly evolving digital landscape, making a substantial and positive impact is crucial for businesses to thrive and contribute meaningfully to society. This course caters to individuals aspiring to make a significant impact in the digital economy. By blending theoretical frameworks, case studies, and hands-on applications, participants will gain insights and strategies to drive impactful digital initiatives that foster economic growth, social progress, and sustainable development within their respective domains.

Topics include:

- Impact in the Digital Economy and Business Purpose
- Scaling Digital Impact through Algorithms, Data Science, Artificial Intelligence, Growth Hacking
- Creating Impact with SEO and Social Media
- Measuring and Analyzing Economic and Social Impact
- Monopolies, Tech Giants, and their Impact on the Digital Economy (Case Studies)
- Sustainable and Ethical Practices in Digital Business
- Leadership and Organizational Culture for Impact

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Analyze case studies to evaluate the influence and implications of tech giants and monopolies on the digital economy, examining their effects on various stakeholders
- b) Create sustainable and ethical practices within digital business environments
- c) Recognize principles of responsible innovation, data privacy, and ethical considerations

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Assess the multifaceted impact of digital initiatives on both economic and social fronts
- b) Use an array of metrics and analytical methodologies for comprehensive measurement, analysis, and interpretation

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Digital Platforms and
Ecosystems**

Compulsory

6 ECTS

Term 2

Course Description

The evolution of digital platforms has revolutionized the way businesses operate, fostering interconnected ecosystems that drive innovation, engagement, and value creation. This course aims to forge professionals, entrepreneurs, and individuals seeking to comprehend the transformative power of digital platforms and ecosystems. Through a blend of theoretical frameworks and real-world case studies, students will gain the skills and strategies to leverage digital platforms, foster thriving ecosystems, and drive innovation and value creation in today's digital landscape.

Topics include:

- Introduction to Digital Platforms and Ecosystems
- Business Models for Digital Platforms: Revenue Models, Monetization Strategies, Network Effects, Leveraged Assets
- Community Building and Crowd Dynamics on Digital Platforms.
- Management of Digital Platforms
- Building and Sustaining Digital Ecosystems
- Innovation and Disruption through Platforms

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Examine aspects such as governance, user experience design, content curation, and platform evolution strategies
- b) Use the key elements necessary for fostering a sustainable and thriving digital ecosystem
- c) Investigate the role of digital platforms in driving innovation and disruption across industries
- d) Show case studies and disruptive strategies employed by successful platforms
- e) Show how digital platforms foster innovation and challenge traditional business models

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Show the effectiveness and implications of different business models used in the digital platform economy
- b) Plan the critical components essential for nurturing and maintaining a sustainable and vibrant digital ecosystem
- c) Demonstrate the interplay between collaboration, interoperability, and value creation among ecosystem participants

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Digital Product
Management**

Compulsory

6 ECTS

Term 2

Course Description

The role of a Digital Product Manager is pivotal in driving innovation, guiding development, and ensuring the success of digital products. This course is designed for individuals aspiring to become proficient Digital Product Managers or those seeking to enhance their product management skills in the digital realm. Through a blend of theoretical knowledge, practical case studies, and hands-on exercises, participants will gain insights and strategies necessary to excel in managing digital products effectively across their lifecycle.

Topics include:

- Introduction to Digital Product Management: Role of a Digital Product Manager, Digital Product Lifecycle, Digital Product Strategy
- Idea Generation and Validation: Techniques for Generating Product Ideas, Market Research and User Needs Analysis, Validating Product Ideas through Prototyping and MVP
- Elements of User-Centric Design and Development
- Objectives and Key Results (OKRs)
- Data-Driven Product Management
- Marketing and Launching Digital Products

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Apply various techniques to generate innovative product ideas
- b) Conduct comprehensive market research, and perform user needs analysis to validate product concepts using prototyping and MVP approaches
- c) Use OKRs as a framework for setting and tracking measurable goals in digital product management
- d) Implement marketing tactics tailored for digital products to achieve successful market penetration and user engagement

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Utilize data-driven approaches to iterate and improve digital product functionalities and user satisfaction
- b) Apply human-centered design principles prioritizing user experience enhancements throughout the product development lifecycle

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Digital
Transformation
Management**

Compulsory

6 ECTS

Term 2

Course Description

The pursuit of digital transformation is crucial for organizations seeking to thrive in a constantly evolving digital era. This course is designed for professionals, business leaders, managers, and change agents looking to spearhead digital transformation within their organizations. By blending theoretical frameworks with real-world case studies and practical applications, students will gain the expertise to navigate digital transformation challenges, implement successful strategies, and lead organizations through impactful digital changes.

Topics include:

- Fundamentals of Digital Transformation
- Strategic Planning for Digital Transformation
- Leadership in Digital Transformation
- Managing Change in Digital Transformation
- Digital Technology Implementation: Evaluating and Selecting Appropriate Digital Technologies, and Measuring the ROI and Impact
- Challenges and Risks in Digital Transformation
- Cybersecurity Threats: Elements of Cybersecurity and Data Protection
- Case Studies and Real-World Applications, Successful and Unsuccessful

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Operate organizational change during digital transformation, addressing resistance, fostering adaptability, and facilitating a culture of innovation
- b) Apply different leadership approaches and determine their impact on the outcomes of digital transformation initiatives
- c) Plan change management strategies tailored for digital transformation to ensure smooth transitions and maximize employee engagement
- d) Analyze the effectiveness of digital technology implementations to ensure alignment with strategic goals and organizational success metrics
- e) Design risk management strategies specific to digital transformations to minimize disruptions and optimize outcomes

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Conduct assessments to measure the efficacy of digital technology implementations
- b) Implement risk management strategies specifically designed for digital transformations

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) N/A

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**Capstone Project and
Dissertation – for
students completing
MSc at 90 ECTS**

Compulsory
30 ECTS
Term 3

Course Description

The Capstone Project and Dissertation is the most significant project assigned to students throughout their program. It is intended to consolidate the skills gained during the program through a research project. Each student, together with an OPIT supervisor, will work on a project proposal that will then be realized through the final terms of their program. The project needs to be a research work of industrial relevance that investigates methodological and/or practical aspects in any of the domains discussed in the program and beyond. Students will also have the opportunity to conduct internships with industrial partners as a way to work and complete their Capstone Project and Dissertation module. In general, the dissertation document should show that the student has achieved mastery of the field and is fully conversant with the relevant literature.

The capstone project is the longest and most challenging project assigned to a student, requiring a long preparation and hard work. The supervisor's role is to guide the student since most of the project should be carried on as an independent work. Students are required to prepare a document where they will describe the project goals and the obtained results. The results should provide enough depth within a particular field of application and be consistent with the original plan agreed with the supervisor. At the end of the process, the student would have learnt to conduct independent research, problem-solving, numerical mastery, project management, time management, and self-discipline, amongst others.

The thesis will be presented to an examining committee. The student will be expected to defend the work done and the results presented. This happens typically via an oral examination called a viva, where the student presents their work and answers questions from the committee.

The final thesis manuscript should consist of 10,000 – 15,000 words.

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Apply research methodologies to explore, analyze, and address complex cybersecurity challenges
- b) Practice structured writing techniques to produce a comprehensive research document
- c) Demonstrate a deep understanding of a chosen cybersecurity topic, substantiating claims with evidence
- d) Show the ability to critically review existing literature and identify gaps or areas of improvement
- e) Plan and execute a research project within a stipulated time-frame, ensuring milestones are met

- f) Design experiments or simulations, as applicable, to validate hypotheses or research questions
- g) Operate relevant cybersecurity tools and platforms to gather, analyze, and present data
- h) Assemble and organize research findings in a coherent and logical manner, ensuring a flow of ideas
- i) Use feedback from peers and advisors to refine and improve the research process and outcomes
- j) Construct arguments and discussions backed by empirical evidence or theoretical frameworks
- k) Prepare and present findings to both technical and non-technical audiences, ensuring clarity and understanding
- l) Create actionable recommendations or solutions based on research findings, ensuring they are practical and implementable
- m) Compose a comprehensive document that adheres to academic standards and is free from plagiarism
- n) Arrange findings, discussions, and conclusions in a structured manner, ensuring the document is reader-friendly and organized

Module-Specific Learner Skills

At the end of the module/unit the learner will be able to

- a) Follow their own learning process, setting research goals, and milestones in line with the project's objectives
- b) Plan for the ethical collection and use of data, respecting privacy and confidentiality standards
- c) Conduct discussions in the research, ensuring they are grounded in evidence and sound reasoning
- d) Prepare the submission of the research, ensuring all academic and institutional criteria are met

Module-Specific Digital Skills and Competences

At the end of the module/unit, the learner will be able to

- a) Operate specialized software or platforms relevant to the research topic, ensuring accurate data collection and analysis
- b) Utilize digital tools for literature review, citation management, and plagiarism checking
- c) Arrange and visualize data using appropriate digital tools, ensuring clear representation of findings
- d) Design and run simulations or models, if applicable, to validate hypotheses using dedicated software
- e) Apply cybersecurity tools to protect research data, ensuring its integrity and confidentiality
- f) Compose the research document using digital word processing software, adhering to specified formatting standards

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**Capstone Project and
Dissertation – for
students completing
MSc at 120 ECTS**

Compulsory
60 ECTS
Term 3 – 4

Course Description

The Capstone Project and Dissertation is the most significant project assigned to students throughout their program. It is intended to consolidate the skills gained during the program through a research project. Each student, together with an OPIT supervisor, will work on a project proposal that will then be realized through the final terms of their program. The project needs to be a research work of industrial relevance that investigates methodological and/or practical aspects in any of the domains discussed in the program and beyond. Students will also have the opportunity to conduct internships with industrial partners as a way to work and complete their Capstone Project and Dissertation module. In general, the dissertation document should show that the student has achieved mastery of the field and is fully conversant with the relevant literature.

The capstone project is the longest and most challenging project assigned to a student, requiring a long preparation and hard work. The supervisor's role is to guide the student since most of the project should be carried on as an independent work. Students are required to prepare a document where they will describe the project goals and the obtained results. The results should provide enough depth within a particular field of application and be consistent with the original plan agreed with the supervisor. At the end of the process, the student would have learnt to conduct independent research, problem-solving, numerical mastery, project management, time management, and self-discipline, amongst others.

The thesis will be presented to an examining committee. The student will be expected to defend the work done and the results presented. This happens typically via an oral examination called a viva, where the student presents their work and answers questions from the committee.

The final thesis manuscript should consist of 20,000 – 30,000 words.

The module instance described here is worth 60 ECTS. The main differences between a 30 and a 60 ECTS Capstone Project and Dissertation are the duration and the value of the results reached by the students. Students opting for the 60 ECTS version will be required to work two full Terms (instead of one) on the module and will be expected to produce results that are publishable in relevant journals and/or conference proceedings. On the other hand, students working on the 30 ECTS version are not expected to reach that level of quality at the time of graduation.

Applying Knowledge and Understanding

At the end of the module/unit the learner will have acquired the following skills:

- a) Apply research methodologies to explore, analyze, and address complex cybersecurity challenges
- b) Practice structured writing techniques to produce a comprehensive research document
- c) Demonstrate a deep understanding of a chosen cybersecurity topic, substantiating claims with evidence
- d) Show the ability to critically review existing literature and identify gaps or areas of improvement
- e) Plan and execute a research project within a stipulated time-frame, ensuring milestones are met
- f) Design experiments or simulations, as applicable, to validate hypotheses or research questions
- g) Operate relevant cybersecurity tools and platforms to gather, analyze, and present data
- h) Assemble and organize research findings in a coherent and logical manner, ensuring a flow of ideas
- i) Use feedback from peers and advisors to refine and improve the research process and outcomes
- j) Construct arguments and discussions backed by empirical evidence or theoretical frameworks
- k) Prepare and present findings to both technical and non-technical audiences, ensuring clarity and understanding
- l) Create actionable recommendations or solutions based on research findings, ensuring they are practical and implementable
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