F20DE Digital and Knowledge Economy

**COURSE DETAILS**

Course Code: F20DE  
Full Course Title: Digital and Knowledge Economy  
SCQF Level: 10  
SCAF Credits: 15  
Available as Elective: No

**DELIVERY LEVEL**

Undergraduate: Yes  
Postgraduate Taught: No  
Postgraduate Research: No

Additional Information:

**COURSE AIMS**

To provide an overview of advanced topics in Digital and Knowledge Economy, including current developments and future trends in developed economies resulting from deploying new technologies and utilising emerging knowledge.

To discuss e-Business, as a new breed of modern business model that leverages technical advancements to create economic growth.

To provide a high-level description of business and technical issues related to Digital and Knowledge Economy.

To introduce technologies and methodologies so as to provide a deep understanding of the Digital and Knowledge Economy, including business, organisational, knowledge and technology-based issues.

To impart rigorous technical modelling and analytical methodologies for working with complex problems in this area.

To facilitate the dialogue between business and computing personnel, and translate business requirements to computing ones and vice versa.

To impart deep understanding of the motivation and rationale behind the conversations between business and IT, as well as other relevant technologies and future trends - so that students can recommend them and/or participate in the decision making process for future planning.

**LEARNING OUTCOMES – SUBJECT MASTERY**

- Understanding of key issues in Digital and Knowledge Economy.
- Understanding of ontologies, conceptual and knowledge modelling technologies, in terms of design, critical evaluation and suitable practical uses.
- Understanding of issues in intelligent systems, supply chain management and business intelligence and the roles technologies may play.
- Understanding of issues and the motivation and rationale of business and technical problems in Digital and Knowledge Economy.
- Ability to select and construct conceptual models, including ontologies, and can create appropriate evaluation criteria to assess them.
- Ability to take self-initiatives to review relevant literature independently in Digital and Knowledge Economy.

**LEARNING OUTCOMES – PERSONAL ABILITIES**

- Analytical skills in conceptual modelling methods, including ontologies, process and knowledge modelling, for business problems.
- Ability to make well-informed evidence-based arguments towards supporting or rejecting technologies to solve business problems.
- Ability to deal with complex issues and make informed judgments, e.g. about ontologies, knowledge modelling, intelligent and business systems in the absence of complete or consistent data.
Exercise autonomy and initiative in addressing digital and knowledge economy challenges.
Demonstrate reflection on digital and knowledge economy.
Ability to judge technology hypes and develop personal opinions on future trends.
Can carry out research based on literature in the field of Digital Economy.

**SYLLABUS**

- Introduction to Digital and Knowledge Economy
  - Introduction to Digital and Knowledge Economy
  - Relevance to e-Commerce and e-Business
  - An overview of technologies and tools for e-Business
  - What are the risks in Digital Economy? What are the remedies?
  - Current development and trends of Digital and Knowledge Economy

- Introduction to Business Model
  - What is a business model? What are the different types of business models?
  - What are the relationships between business models and innovative/disruptive technologies?
  - Business model categories, business model canvas

- Knowledge-based technologies in Knowledge Economy
  - Introduction to knowledge management, knowledge modelling technologies, including ontologies
  - Introduction to logic, Intelligent Systems and related technologies, including semantic web-based technologies
  - Case studies of Intelligent Systems and Future trend

- Business Intelligence:
  - Introduction to Business Intelligence: technologies and case studies
  - Introduction to data mining, data warehousing, applications and challenges
  - Introduction to process mining, applications and challenges

Prerequisites: Fundamentals of logic, grasp of computational thinking

**COURSE RELATIONSHIPS**

N/A

**LOCATION AND ASSESSMENT METHODS**

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