

**FOUR YEAR UNDERGRADUATE PROGRAMME (FYUGP)
DETAILED SYLLABUS OF SECOND SEMESTER**

Course Code: SEC 229
Title of the Course: Digital Economy
Nature of the Course: Skill Enhancement Course (SEC)
End Semester: 80 Marks
In Semester: 20 Marks
Total Credits: 03

Course objectives:

- To introduce the students about the fundamental concepts and historical evolution of the digital economy and key drivers and technological milestones that have shaped the digital landscape.
- To help the students learn different types of e-commerce and online business models and to evaluate strategies for digital marketing, user experience, and customer acquisition in the context of e-commerce.
- To allow the students to explore the role of data-driven decision making, big data analytics, and machine learning in contemporary business practices.
- To make the students aware of emerging technologies such as blockchain, artificial intelligence, and automation, and participate future trends in the digital economy.
- This syllabus provides a comprehensive understanding of the digital economy, covering its foundations, practical applications, strategic considerations, and future trends. The inclusion of case studies and a capstone project enhances the practical applicability of the course.

Units	Contents	L	T	P
1 (20 Marks)	<p>Introduction to the Digital Economy Definition and scope Historical evolution</p> <p>Key Concepts - Digitalization vs Traditional Economy Digital Transformation</p> <p>Digital Technologies – Big Data Analytics, Internet of Things (IoT), Artificial Intelligence and Machine Learning</p> <p>Impact on Businesses and Society - Changes in business models, Social implications</p> <p>Regulatory Landscape - Digital regulations and policies, Challenges in governance</p>	10	1	
2 (20 Marks)	<p>E-Commerce and Digital Business Models E-Commerce, Types of E-Commerce (B2B, B2C, C2C) Online payment systems</p> <p>Digital Business Models - Subscription-based models Freemium models Platform business models</p> <p>E-Marketing and Social Media - Digital marketing strategies</p>	10	1	

	<p>Social media platforms and their role Cybersecurity in E-Commerce - Threats and vulnerabilities Security measures and best practices</p> <p>Case Studies - Successful E-Commerce businesses Failures and lessons learned</p>			
3 (20 Marks)	<p>Application of Game Theory in Digital Economy Basic concepts and terminology Nash equilibrium Game Theory in Digital Markets - Pricing strategies Competition and collaboration</p> <p>Auctions and Mechanism Design - Online auctions Designing digital marketplaces</p> <p>Decision-Making in Digital Businesses - Strategic interactions Game theory applications in negotiations</p> <p>Case Studies - Real-world examples of game theory in the digital economy</p>	10	1	
4 (20 Marks)	<p>Digital Policy and Future Trends Privacy and data protection Net neutrality Intellectual property in the digital age</p> <p>Global Digital Economy Trends – Emerging technologies (Blockchain, 5G) International collaborations and standards</p> <p>Ethical Considerations in the Digital Economy - AI ethics Social responsibility of digital businesses</p> <p>Future of Work in the Digital Economy - Remote work trends Automation and job displacement</p> <p>Capstone Project - Research and analysis of a current digital economy trend Presentation and discussion</p>	10	1	
		40	4	

Where, L = Lecture , T = Tutorial, and P = Practical

Modes of In-Semester Assessment

- One Test (=10 Marks)
- Students have to choose any one of the following suggested activities in a semester for their in-semester assessment. (=10 Marks)
 - Seminar Presentation on any of the relevant topic from the syllabus.

- Debates and Discussions
- Poster Presentations
- Concept Note
- Reflective Journal

Learning Outcomes:

- a) After completing this course on the digital economy, students will have a thorough understanding of the fundamental ideas and significant historical advancements in the field.
- b) Through the analysis of various e-commerce models, the students will learn more about marketing, customer acquisition, and digital business tactics and application of game theory in digital economy.
- c) Students will gain an understanding of network effects, competition, and the significance of data-driven decision-making by delving into the dynamics of the platform economy, with a particular emphasis on big data analytics and machine learning.
- d) The students will assess the effects of digital regulations while taking inclusivity, accessibility, and ethical considerations into account. Students will get a forward-thinking viewpoint by anticipating and evaluating cutting-edge technologies like blockchain and artificial intelligence.

Reading List

Introduction to the Digital Economy

1. "The Digital Economy: Promise and Peril in the Age of Networked Intelligence" by Don Tapscott
2. "Digital Economy: Complexity and Variety vs. Rationality" by Viktor O. Ledenyov and Dimitri O. Ledenyov

Digital Technologies

3. "Big Data: A Revolution That Will Transform How We Live, Work, and Think" by Viktor Mayer-Schönberger and Kenneth Cukier
4. "The Internet of Things: How Smart TVs, Smart Cars, Smart Homes, and Smart Cities Are Changing the World" by Michael Miller
5. "Artificial Intelligence: A Guide for Thinking Humans" by Melanie Mitchell

Impact on Businesses and Society

6. "The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution" by Walter Isaacson
7. "The Fourth Industrial Revolution" by Klaus Schwab

Regulatory Landscape and E-Commerce

8. "Digital Wars: Apple, Google, Microsoft and the Battle for the Internet" by Charles Arthur
9. "Zero to One: Notes on Startups, or How to Build the Future" by Peter Thiel

Digital Business Models

10. "Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers" by Alexander Osterwalder and Yves Pigneur

11. "Platform Revolution: How Networked Markets Are Transforming the Economy—and How to Make Them Work for You" by Geoffrey G. Parker, Marshall W. Van Alstyne, and Sangeet Paul Choudary

E-Marketing and Social Media

12. "Contagious: How to Build Word of Mouth in the Digital Age" by Jonah Berger

13. "The Social Media Bible: Tactics, Tools, and Strategies for Business Success" by Lon Safko and David K. Brake

Cybersecurity in E-Commerce

14. "Future Crimes: Inside the Digital Underground and the Battle for Our Connected World" by Marc Goodman

15. "Hacking: The Art of Exploitation" by Jon Erickson

Application of Game Theory in Digital Economy

16. "Game Theory: A Very Short Introduction" by Ken Binmore

17. "Algorithmic Game Theory" by Noam Nisan, Tim Roughgarden, Eva Tardos, and Vijay V. Vazirani

Digital Policy and Future Trends

18. "The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power" by Shoshana Zuboff

19. "The Blockchain Revolution" by Don Tapscott and Alex Tapscott

Ethical Considerations in the Digital Economy

20. "Artificial Unintelligence: How Computers Misunderstand the World" by Meredith Broussard

21. "The Ethical Algorithm: The Science of Socially Aware Algorithm Design" by Michael Kearns and Aaron Roth

Future of Work in the Digital Economy

22. "The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies" by Erik Brynjolfsson and Andrew McAfee

23. "Human + Machine: Reimagining Work in the Age of AI" by Paul R. Daugherty and H. James Wilson

Capstone Project

24. "Data Science for Business" by Foster Provost and Tom Fawcett

25. "Naked Statistics: Stripping the Dread from the Data" by Charles Wheelan