



Azerbaijan Architecture and Construction University
Master's Center

“Confirmed by”:

Director of the Master's Center:

_____ dos. R.Y.Samedov

“15” february 2024

“Digital Business Ecosystems - Formation of regional innovative ecosystems”

Discipline

Education program

(syllabus)

Specialty (code and name)	02_WORK4CE
<i>1. Information about discipline</i>	
Name of discipline	“Digital Business Ecosystems - Formation of regional innovative ecosystems”
Academic language	<i>English</i>
Academic year	<i>2024</i>
Semestr	<i>Spring</i>
Type of education	<i>Full time</i>
Educational stage	<i>Master</i>
Group	
Educational load	30 hours
Subject’s teaching days	<i>Monday</i>
Number of training weeks	<i>15</i>
Lecture-hall	<i>№1121, I branch</i>
<i>2. Information about lecturer</i>	
Lecturer	<i>İsa Muradov</i>
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Phone number	<i>Mobile: +994517780055 work:</i>

Baku – 2024

I. Course Prescription

Throughout the modern industrial era, industries have generally been organized as linear value chains. This gave birth to the vertically integrated organization, which was organized in such a way in order to control the entire value chain and achieve economies of scale, which in turn would create a significant competitive advantage. As digital technologies continue gaining adoption, they start enabling new ways of organizing how value is created. This transition means moving from value chains to digital ecosystems. This is giving way to new industry giants, which rely on the strength of their digital ecosystems to attain market dominance. However, there is still limited knowledge of digital ecosystems: how they are created, how they work and, importantly, how organizations beyond digital giants can approach digital ecosystems.

Importantly though, an ecosystem is more than a set of partnerships. Since it is a network of loose contributors who interact closely to create mutual value, there is necessarily an atmosphere of interdependency among partners in the ecosystem. This means that all partners share the same interests and that individual partners will only be successful if the ecosystem succeeds. As such, business and operating models need to be adapted to the new paradigm.

This module will enable you to understand how ecosystems are changing the fundamentals of the business world and introduce a common language, a way of thinking and a methodology to help you address the challenges and opportunities in this space.

II. Overall Learning Outcome:

At the end of the course, the student will understand the importance of considering the triple bottom line of Enhanced quality of life - Economic, Social, and Environmental in the DBE. The student will become familiar with the Digital Business Ecosystem (DBE) basis of business and digital ecosystem, the principles of DBE; the social-economical view of DBE and the Information-communication technology (ICT) view of DBE the triple bottom line of DBE

- Familiarity with the types of digital platforms
- Familiarity with the main theories explaining the functioning of platforms
- Simulation of ecosystem development around the platform
- Simulation of ecosystem development around the platform (system dynamics)
- Introducing business models using digital platforms
- Introduction to digital platform management
- Ecosystem topology around digital platforms
- Innovation around digital platforms
- The future of digital platforms
- Technical Competence: know and use DBE concepts for analyzing and building digital business environments for small and medium enterprises.
- Professional Competence: manage the process of developing the digital business environment.
- Global Competence: take into account cultural diversity, social differences, involvedness of participants, and individual features during developing DBE.

2.1 Knowledge:

- Understanding the fundamental concepts of digital business ecosystems.
- Familiarity with the key technologies and trends shaping digital business environments.
- Knowledge of the role of data analytics, artificial intelligence, and digital marketing in business ecosystems.
- Awareness of legal and ethical considerations in digital business.

2.2 Skills:

- Ability to analyze and assess digital business models and strategies.
- Proficiency in using digital tools and platforms for business operations and marketing.
- Data analysis and interpretation skills for making informed business decisions.
- Effective communication and collaboration skills within a digital ecosystem.
- Problem-solving skills in the context of digital business challenges.

2.3 General competencies:

- Adaptability and agility in navigating the rapidly evolving digital landscape.
- Critical thinking and decision-making abilities in digital business scenarios.
- Ethical and responsible use of technology and data in business practices.
- Teamwork and collaboration skills in multidisciplinary digital teams.
- Entrepreneurial mindset and innovation capabilities for creating digital business opportunities.

III. Plan of lectures, subject matter and training schedule

№	Date	The topic of lecture and code of literature	Auditorium Hours
1	2	3	4
1	19.02.2024 26.02.2024	The Essence of Innovation Development <ul style="list-style-type: none">• Overview of Innovation: Definition and Importance• Types of Innovation: Incremental vs. Disruptive• Innovation Lifecycle and Diffusion Models• Innovation Strategies: Open vs. Closed Innovation	4
2	04.03.2024	Topic 2: Architectonics of the National Innovation System <ul style="list-style-type: none">• Components of the National Innovation System (NIS)• Role of Government, Industry, and Academia in NIS	2

		<ul style="list-style-type: none"> • Case Studies of Successful National Innovation Systems • Challenges and Critiques of NIS Architectonics 	
3	11.03.2024 18.03.2024	<p>Topic 3: Commercialization of Innovations in the Context of Human Capital</p> <ul style="list-style-type: none"> • Concept of Innovation Commercialization • Importance of Human Capital in Innovation • Technology Transfer and Intellectual Property Management • Strategies for Capitalizing on Human Potential in Innovation 	4
4	25.03.2024 01.04.2024	<p>Topic 4: Innovative Ecosystems: Formation and Methodological Principles</p> <ul style="list-style-type: none"> • Understanding Innovative Ecosystems • Key Elements of Innovative Ecosystems: Startups, Corporations, Universities, Incubators, etc. • Methodological Principles for Forming Effective Ecosystems • Case Studies and Best Practices in Building Innovative Ecosystems 	4
5	08.04.2024	<p>Topic 5: Best Practices in Innovative Ecosystems</p> <ul style="list-style-type: none"> • Global Examples of Successful Innovative Ecosystems (e.g., Silicon Valley, Shenzhen, Tel Aviv) • Comparative Analysis of Different Ecosystem Models • Lessons Learned and Transferable Practices • Policies and Initiatives Promoting Ecosystem Development 	2
6	15.04.2024 22.04.2024	<p>Topic 6: New Paradigm of Regional Innovation Policy</p> <ul style="list-style-type: none"> • Overview of Regional Innovation Policy • Shifts in Policy Paradigms: From Linear to Quadruple Helix Models • Case Studies of Effective Regional Innovation Policies • Future Trends and Challenges in Regional Innovation Policy 	4
7	29.05.2024	<p>Topic 7: Innovation Clusters and Networks</p> <ul style="list-style-type: none"> • Concept of Innovation Clusters and Networks 	2

		<ul style="list-style-type: none"> • Types of Clusters: Industry-Based, Knowledge-Based, Mixed-Use • Benefits and Challenges of Clustering • Case Studies of Successful Innovation Clusters 	
8	06.05.2024 13.05.2024	<p>Topic 8: Entrepreneurship and Innovation</p> <ul style="list-style-type: none"> • The Role of Entrepreneurship in Innovation Ecosystems • Entrepreneurial Ecosystems vs. Innovation Ecosystems • Support Mechanisms for Entrepreneurs: Funding, Mentorship, Incubation • Impact of Entrepreneurship on Regional Development 	4
9	20.05.2024 27.05.2024	<p>Topic 9: Sustainability and Innovation</p> <ul style="list-style-type: none"> • Sustainability Challenges and Opportunities in Innovation • Green Innovation and Eco-Entrepreneurship • Policies and Initiatives Promoting Sustainable Innovation • Case Studies of Sustainable Innovation Practices 	4
		Total	30

IV. Coursework and their features

There is no coursework in the subject program.

V. Free work

Topics for free work of students.

In the learning process, students' knowledge of the subject is assessed by oral or written answers to theoretical questions posed by the subject teacher during lectures and lessons, as well as an oral examination on the ability to apply the knowledge in practical issues. Tests and discussions are organized by the teacher of the subject in order to check the quality of assimilation. The topics of free work performed by students are given by the teacher who teaches the subject, and may include the following topics:

Module 1: Introduction to Innovative Ecosystems

- Definition and Importance of Innovative Ecosystems
- Key Components: Startups, Corporations, Universities, Incubators
- Role of Collaboration and Networking

Module 2: Theoretical Foundations of Ecosystem Formation

- Systems Thinking and Ecosystem Theory
- Innovation Clusters and Networks
- Importance of Diversity and Interconnectivity

Module 3: Methodological Principles for Forming Ecosystems

- Strategic Planning and Stakeholder Engagement
- Infrastructure and Resource Allocation
- Best Practices and Global Examples

Module 4: Innovation Policy and Ecosystem Support

- Overview of Regional Innovation Policies
- Role of Government and Policy Makers
- Funding Mechanisms and Regulatory Frameworks

Module 5: Entrepreneurship and Ecosystem Dynamics

- Entrepreneurial Ecosystems and Support Systems
- Innovation Culture and Leadership
- Case Studies of Entrepreneurial Success

Module 6: Sustainability and Future Trends

- Sustainable Development Goals (SDGs) and Ecosystems
- Green Innovation and Eco-friendly Practices
- Emerging Technologies and Future Trends

VI. assessment

Student's final score is calculated by the maximum 100 points.
Of these, the student earns 50 points during the semester and 50 points in the exam.

50 points scored during the semester include:

- for the duration of the course - 10 points;
- free works - 10 points;
- According to the results of classes - 30 points.

50 points scored before the exam in the semester include:

- for the attendance of the course - 10 points;
- according to the results of seminars - 30 points;
- for free works (1 point for one free work) - 10 points;

The number of points scored by the student in the exam must be at least 17.

Student knowledge is evaluated in accordance with the European credit transfer system (ECTS) in accordance with the following table:

91 – 100 points	A	Excellent
81 – 90 points	B	Very good
71 – 80 points	C	Good
61 – 70 points	D	Enough
51 – 60 points	E	Satisfactory
Less than 51	F	Insufficient

Violation of the rules of conduct. The student must be attentive and active in the educational process, must observe hygiene and should be engaged only in the training of the course. It is necessary to observe ethical standards accepted in society and legal norms existing in our country. If a student violates the rules of disciplinary action, he / she will be punished in the manner prescribed by the University Regulation.

VII. Teaching materials

7.1. Recommended literature

Architecting the Internet of Things (PDFDrive).pdf
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Business-Analytics-2nd-Edition-by-James-Evans-pdf-free-download-booksfree.org_.pdf
Business-Analytics-2nd-Edition-by-James-Evans-pdf-free-download-booksfree.org_.pdf

Data Analytics Made Accessible (PDFDrive).pdf
Data Analytics Made Accessible (PDFDrive).pdf

Data Analytics Made Accessible by Anil Maheshwari (z-lib.org).pdf

VIII. It is planned to conduct written exam on the subject

- Note:** 1. Exams correspond to the curriculum of the subject (syllabus);
2. The number and content of exams can be changed by the subject teacher before the exam in accordance with the curriculum of the subject.

IX. Training plan of discipline

In the academic calendar, the course schedule is organized in accordance with the academic schedule of the university.

X. Studying students' views on the subject (comments and suggestions)

This employee training plan (syllabus) is in accordance with the State Standard for the Master's level Education Program of Azerbaijan Republic.

This employee training plan (syllabus) for the subject was discussed and approved at the meeting of the "Master's Center" on February 2024, protocol №_____.

Date of meeting "15" February 2024

Senior Lecturer / MSc, İsa Muradov