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**“MICRO-GEAR: MICRO-CREDENTIALS FOR HIGHER
EDUCATION SYSTEMS OF GEORGIA AND ARMENIA:
SOUTH CAUCASUS LIGHTHOUSE PROJECT”
Project #101127144**

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Overview of Course Development and Implementation

The Micro-GEAR project successfully achieved the timely development, launch, and implementation of its pilot courses in accordance with the project work plan. Through close collaboration among all partner institutions, the courses were designed, reviewed, and prepared for delivery, ensuring consistency in quality, relevance, and alignment with the project's objectives.

The pilot implementation of the courses provided an opportunity to validate the developed educational content, teaching methodologies, and assessment approaches in real learning environments. Feedback collected from learners, instructors, and partner institutions informed final refinements, contributing to the quality and sustainability of the developed micro-credentials and supporting their future integration into institutional educational offerings.

This document presents the full set of course materials developed and piloted within the Micro-GEAR project, including descriptions, entrance requirements, target competences, teaching and learning plans, educational content, instructional design and education technologies, assessment approaches, and quality assurance procedures. It also provides a description of the resulting micro-credentials and their structure.

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EURASIA INTERNATIONAL UNIVERSITY

MICRO-CREDENTIAL PROGRAM:

**Organizational Business Transformation and
Sustainable Management (EIU)**

**Organizational Business Transformation and
Sustainable Management (EIU)**

MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Organizational Business Transformation and Sustainable Management
Awarding institution	Eurasia International University (Armenia)
ECTS / Credits	15 ECTS
Duration	Total Duration: 12 weeks Sessions: 6 sessions per week (12 academic hours each)
Mode of Delivery	Hybrid (or can be adapted to Online/Onsite based on your preference)
Language of Instruction	English / Armenian
Main Objective	Main Objective: To develop the competencies necessary to lead, design, and support organizational transformation initiatives aligned with sustainability principles and long-term strategic goals.
Main Topics / Content of the Micro-course	1. Sustainable Management & ESG Frameworks - 6 ECTS 2. AI Tools for Research and Development - 3 ECTS 3. Business Process Management with Capstone Project - 6 ECTS
Target Participants & Participation Prerequisites	Target Participants: • Junior and mid-level managers. • Sustainability and CSR specialists. • Project coordinators. • Entrepreneurs. • Professionals involved in organizational planning or innovation. Prerequisites: • Basic understanding of business management. • Preferably experience in organizational or project work (recommended but not mandatory).
Admission Requirements	A minimum of Bachelor's degree or an equivalent from an accredited institution

Microcredential Program Description	
The program provides learners with the essential knowledge, frameworks, and practical tools to manage organizational transformation in a rapidly changing economic, technological, and environmental landscape. The course focuses on how organizations can strategically adapt their structures, processes, and culture to remain competitive while embracing sustainable development principles. Learners explore transformation drivers such as digitalization, innovation, regulatory changes, shifting consumer expectations, and global sustainability standards. The program emphasizes sustainable management practices, ESG integration, organizational agility, change management, and leadership for transformation. Upon completion, participants will be able to assess an organization's current state, design transformation initiatives, implement sustainable strategies, evaluate impact, and support long-term organizational resilience. The course is suitable for emerging managers, project leads, sustainability officers, and professionals seeking to enhance their strategic and managerial competencies.	
Learning outcomes of the course	Teaching, learning and assessment methods

Upon successful completion of the program, learners will be able to: Knowledge & Understanding • LO1: Explain core principles of sustainable management, ESG frameworks, and responsible governance, including their strategic relevance in contemporary organizations. • LO2: Understand key business process management (BPM) concepts, including process mapping, process architecture, and continuous improvement principles. • LO3: Describe performance measurement frameworks, including sustainability metrics, process KPIs, AI governance indicators, and evaluation tools. Skills • LO4: Assess ESG risks and opportunities and evaluate organizational alignment with sustainability goals, regulatory expectations, and stakeholder needs. • LO5: Design integrated transformation strategies that combine sustainability, AI leadership, and business process optimization. • LO6: Map, model, and redesign business processes using BPM methodologies, modeling tools (e.g., BPMN), and continuous improvement cycles. • LO7: Prepare and deliver a comprehensive transformation plan that includes sustainability, AI strategy, and optimized processes. Ability & Responsibility • LO8: Demonstrate advanced communication, leadership, and problem-solving skills when presenting and defending a capstone transformation project. • LO9: Work autonomously and collaboratively to manage complex tasks involving sustainability analysis, AI strategy development, and process redesign. • LO10: Exercise professional judgment by integrating technical knowledge, analytical insights, and ethical considerations in recommendations and decision-making.	The course adopts a competency-based, learner-centred, and practice-oriented approach, delivered through a blended learning format. Teaching and learning activities include: • Interactive lectures and seminars; • Workshops and practical exercises; • Case studies and problem-based learning activities; • Collaborative team projects; • Online learning modules and self-directed study; • Mini-research and inquiry-based tasks; • Sustainability and transformation analysis exercises; • Peer discussions and reflective learning activities. Participants' achievement of the learning outcomes will be assessed through a combination of formative and summative assessment methods, including: • Online quizzes (multiple-choice and short-answer formats); • Case study analyses; • Group-based transformation strategy project; • Individual written assignment or reflective report; • Oral presentation of the final project. Assessment will be conducted at key stages of the course, including a mid-course assessment and a final assessment.
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COURSE UNIT 1. SUSTAINABLE MANAGEMENT & ESG FRAMEWORKS – 6 ECTS

Purpose of the course unit: programme competences to be developed

This module aims to develop competences related to:

- Understanding sustainability principles, ESG frameworks, and ethical governance.
- Applying diagnostic tools to evaluate organizational sustainability performance.
- Designing sustainability-oriented actions aligned with global standards (SDGs, GRI, TCFD).
- Supporting responsible strategic decision-making.
- Communicating sustainability and ESG insights to internal and external stakeholders.

Learning outcomes of the program	Learning outcomes of the course unit	Teaching and learning and assessment methods
Knowledge & Understanding 1. Explain core principles of sustainable management, ESG frameworks, and responsible governance, including their strategic relevance in contemporary organizations. Skills 2. Assess ESG risks and opportunities and evaluate organizational alignment with sustainability goals, regulatory expectations, and stakeholder needs. Ability & Responsibility 3. Exercise professional judgment by integrating technical knowledge, analytical insights, and ethical considerations in recommendations and decision-making.	Knowledge & Understanding 1. Understand core principles of sustainable management, ESG frameworks, and ethical governance. 2. Describe global sustainability drivers and their impact on organizational strategy. Skills 3. Analyze organizational sustainability performance using structured ESG indicators and diagnostic tools. 4. Develop sustainability-driven initiatives that address environmental, social, and governance priorities. Ability & Responsibility 5. Demonstrate responsibility in promoting ethical, transparent, and sustainability-oriented decision-making. 6. Communicate sustainability insights and recommendations clearly to internal and external stakeholders.	Teaching & Learning Methods • Lectures and interactive seminars • Case studies (corporate ESG reports, sustainability strategies) • Group discussions and reflection activities • Practical ESG analysis exercises • Short written assignments • Independent reading of sustainability frameworks Assessment Methods • Quizzes on ESG concepts • Practical ESG analysis assignment • Reflection paper on sustainability challenges • Participation in discussions

COURSE CONTENTS

Topics	Full-time		
	Contact work hours and planned learning activities	Independent	Total

	Lectures	Seminars	work hours	
1. Introduction to Sustainable Development & ESG	2	2	20	24
2. Global Sustainability Frameworks (SDGs, ESG, CSR, Circular Economy)	2	4	18	24
3. Sustainability Risk Assessment and Materiality	2	4	18	24
4. ESG Indicators, Metrics & Reporting Standards	2	4	18	24
5. Environmental and Social Impact Evaluation	2	6	16	24
6. Integrating ESG into Organizational Strategy	4	6	14	24
7. Essay	2	6	28	36
Overall	16	32	132	180

LITERATURE

Required reading

1. Elkington, J. – *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*
https://en.pdfdrive.to/dl/cannibals-with-forks-the-triple-bottom-line-of-21st-century-business?utm_source=chatgpt.com
2. Raworth, K. – *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist*
<https://hume.ufm.edu/conversatorios/wp-content/uploads/2024/10/Raworth-2017-Doughnut-Economics-3.pdf>
3. OECD – *Responsible Business Conduct Guidelines*
https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/06/oecd-guidelines-for-multinational-enterprises-on-responsible-business-conduct_a0b49990/81f92357-en.pdf
4. Eccles, R., Ioannou, I., & Serafeim, G. (2014). *The Impact of Corporate Sustainability on Organizational Processes and Performance*. Harvard Business School.
5. Kotsantonis, S., Pinney, C., & Serafeim, G. (2016). *ESG Integration in Investment Management*.
6. World Economic Forum (2021). *Measuring Stakeholder Capitalism: Common Metrics*.
7. Eccles, R., & Krzus, M. – *The Integrated Reporting Movement*
https://www.erevalue.com/wp-content/uploads/2014/11/Bob_Eccles_Branded_Chapters-Ch5_and_6.pdf
8. IPCC Reports (Assessment Reports & Summaries for Policymakers)
https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
9. UN Global Compact – Principles & Implementation Guide
https://www.unido.org/sites/default/files/2010-07/UN_global_compact_operational_guide_for_medium_scale_enterprises_0.pdf
10. Sustainable Development Goals (UN SDGs) – Official Framework
<https://www.undp.org/sustainable-development-goals>
11. Sroufe, R. (2018). *Integrated Management: How Sustainability Creates Value*.
12. Porter, M. & Kramer, M. (2011). *Creating Shared Value*. Harvard Business Review.
13. IFRS (2023). *IFRS Sustainability Disclosure Standards (S1 & S2)*.

ASSESSMENT

Assessment criteria	Weighting percentage (%)
Attendance and Participation – Regular attendance and active participation in lectures, seminars, and discussions.	10%
Case Study Analysis – Analysis of a sustainability or ESG-related case, demonstrating the ability to apply course concepts to real-world situations.	25%
Essay – Individual written assignment on a sustainability, ESG, or responsible governance topic.	35%
Classroom Activities – Participation in practical exercises, workshops, and group activities conducted during class sessions.	15%
Extra-curricular Work – Independent learning activities, including readings, research tasks, and preparation of assignments.	15%

COURSE UNIT 2. AI TOOLS FOR RESEARCH AND DEVELOPMENT - 3 ECTS

Purpose of the course unit: programme competences to be developed		
This module develops competences in: • Understanding AI fundamentals and their implications for organizational strategy. • Assessing organizational AI readiness and digital maturity. • Designing ethical, responsible AI strategies aligned with governance principles. • Leading teams through AI-enabled transformation. • Communicating AI-driven change clearly and responsibly.		
Learning outcomes of the program	Learning outcomes of the course unit	Teaching and learning and assessment methods
Knowledge & Understanding 1. Explain foundational concepts of artificial intelligence, data governance, and ethical considerations in digital transformation. 2. Describe performance measurement frameworks, including sustainability metrics, process KPIs, AI governance indicators, and evaluation tools. Skills 3. Design integrated transformation strategies that	Knowledge & Understanding 1. Understand foundational concepts of AI, data governance, and digital transformation. 2. Describe how AI influences leadership roles, workforce transformation, and strategic planning. 3. Recognize ethical and governance issues related to AI adoption. Skills	Teaching & Learning Methods • Lectures on AI, governance, digital transformation • Interactive workshops • Case analysis of AI transformation initiatives • Group discussions on AI ethics • Practical AI readiness assessment exercises Assessment Methods • Quizzes on AI concepts and leadership principles

combine sustainability, AI innovations, and business process optimization. 4. Prepare and deliver a comprehensive transformation plan that includes sustainability, AI strategy, and optimized processes. Ability & Responsibility 5. Work autonomously and collaboratively to manage complex tasks involving sustainability analysis, AI strategy development, and process redesign. 6. Exercise professional judgment by integrating technical knowledge, analytical insights, and ethical considerations in recommendations and decision-making.	4. Analyze organizational AI readiness using structured diagnostic tools. 5. Develop AI strategic roadmaps that incorporate governance models, ethical guidelines, and risk mitigation. 6. Apply human-centered and responsible AI leadership principles in transformation scenarios. Ability & Responsibility 7. Demonstrate ethical leadership when guiding AI-related decisions and organizational communication. 8. Take responsibility for ensuring transparency, fairness, and accountability in AI-enabled initiatives.	• AI readiness assessment assignment • Case study evaluation • Presentation on responsible AI strategy
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COURSE CONTENTS

Topics	Full-time			
	Contact work hours and planned learning activities		Independent work hours	Total
	Lectures	Seminars		
1. Introduction to Artificial Intelligence in Organizations	2	2	6	10
2. AI Governance, and Regulatory Requirements	2	2	6	10
3. AI-Driven Business Models & Strategic Opportunities	2	2	6	10
4. Leadership in Digital & AI Transformation	2	2	6	10
5. AI Readiness Assessment Tools & Maturity Models	2	2	6	10
6. Designing AI Roadmaps and Governance Structures	2	2	6	10
7. Responsible AI (Fairness, Transparency, Accountability)	2	2	6	10
8. Project	2	2	16	20
Overall	16	16	58	90

LITERATURE

Required reading
1. Ng, A. – <i>Machine Learning Yearning</i> https://nessie.ilab.sztaki.hu/~kornai/2020/AdvancedMachineLearning/Ng_MachineLearningYearning.pdf 2. Brynjolfsson, E., & McAfee, A. – <i>The Second Machine Age</i> http://digamo.free.fr/brynmacafee2.pdf 3. Ethem Alpaydin – <i>Machine Learning: The New AI</i> https://dl.matlabyar.com/siavash/ML/Book/Ethem%20Alpaydin-Introduction%20to%20Machine%20Learning-The%20MIT%20Press%20(2014).pdf 4. Russell, S. – <i>Human Compatible: AI and the Problem of Control</i> https://maxkasy.github.io/home/files/other/ML_Econ_Oxford/human_compatible.pdf 5. MIT Sloan Management Review – AI & Business Strategy Series https://mlq.ai/media/quarterly_decks/v0.1_State_of_AI_in_Business_2025_Report.pdf https://vinciworks.com/wp-content/uploads/2024/08/understanding-eu-ai-act.pdf https://online.fliphtml5.com/fzqli/rpiv/#p=1

ASSESSMENT

Assessment criteria	Weighting percentage (%)
Attendance and Participation – Regular attendance and active participation in lectures, seminars, and discussions.	10%
Case Study Analysis – Analysis of an AI-enabled transformation initiative, demonstrating the ability to evaluate AI opportunities, governance challenges, ethical considerations, and organizational impacts.	25%
Project – Development of an AI readiness assessment and a responsible AI strategy or roadmap for an organization, incorporating governance principles, risk mitigation measures, and transformation objectives. Results are presented and discussed in class.	35%
Classroom Activities – Participation in practical exercises, workshops, and group activities conducted during class sessions.	15%
Extra-curricular Work – Independent learning activities, including readings, research tasks, and preparation of assignments.	15%

GROUP / INDIVIDUAL PROJECTS

Topics

GROUP PROJECT OPTIONS

1. AI Readiness & Strategy

- Assess an organization's AI readiness (culture, data, governance, processes)
- Identify strengths, risks, and opportunities
- Develop a 1–3 year AI roadmap
Deliverables: diagnostic report, roadmap, presentation

2. Responsible AI Governance Model

- Design an ethical AI governance framework (fairness, transparency, accountability)
- Define roles, decision processes, escalation paths
Deliverables: governance model, roles chart, case example

3. AI-Driven Process Innovation

- Redesign an organizational process using AI
- Evaluate risks, ethics, and workforce impact
Deliverables: process analysis, new design, implementation notes

4. AI Transformation Case Comparison

- Compare 2–3 real AI transformation cases
- Identify success factors, failures, and leadership lessons
Deliverables: comparative report, recommendations

5. AI Ethics Scenario Simulation

- Create and analyze an AI ethics dilemma (bias, privacy, automation, etc.)
- Evaluate responses from ethical and leadership perspectives
Deliverables: scenario, policy recommendations, discussion activity

INDIVIDUAL PROJECT OPTIONS

1. Ethical AI Review

- Analyze one AI system using an ethics framework
Deliverables: 3–5 page report + recommendations

2. AI & Leadership Reflection

- Reflect on how AI changes leadership and your own readiness
Deliverable: reflective essay

3. AI Maturity Mini-Assessment

- Assess AI maturity of an organization
- Identify gaps and improvements
Deliverables: table + short report

4. Responsible AI Policy Brief

- Write a 2–3 page executive policy on responsible AI use
Deliverable: policy brief

5. AI Crisis Scenario Response

- Respond to an AI-related organizational crisis

- Include decisions and communication plan
- Deliverables:** crisis plan + ethical justification

COURSE UNIT 1. BUSINESS PROCESS MANAGEMENT WITH CAPSTONE PROJECT - 6 ECTS

Purpose of the course unit: programme competences to be developed

This module develops competences in:

- Understanding BPM principles, methodologies, and process modeling techniques.
- Conducting detailed process analyses using structured frameworks.
- Designing improved business processes aligned with organizational goals.
- Applying continuous improvement methods and performance measurement.
- Integrating ESG and AI considerations into process reengineering.
- Completing a comprehensive **Capstone Graduation Project**.

Learning outcomes of the programme	Learning outcomes of the course unit	Teaching and learning and assessment methods
Knowledge & Understanding 1. Understand key business process management (BPM) concepts, including process mapping, process architecture, and continuous improvement principles. 2. Describe performance measurement frameworks, including sustainability metrics, process KPIs, AI governance indicators, and evaluation tools. Skills 3. Map, model, and redesign business processes using BPM methodologies, modeling tools (e.g., BPMN), and continuous improvement cycles. 4. Prepare and deliver a comprehensive transformation plan that includes sustainability, AI strategy, and optimized processes. Ability & Responsibility 5. Demonstrate advanced communication, leadership, and problem-solving skills when presenting and defending a capstone transformation project.	Knowledge & Understanding 1. Understand BPM fundamentals, process modeling methods, and continuous improvement principles. 2. Recognize how processes influence organizational performance, efficiency, and transformation outcomes. Skills 3. Map, model, and analyze business processes using BPMN or equivalent process tools. 4. Design improved processes that optimize efficiency, sustainability, or digital readiness. 5. Build and apply performance metrics (process KPIs, ESG-linked indicators, AI governance metrics) to measure impact. 6. Prepare a comprehensive capstone project integrating sustainability, AI strategy, and process redesign. Ability & Responsibility 7. Demonstrate autonomy in managing all phases of a process	Teaching & Learning Methods • Lectures and applied workshops • Hands-on BPMN modeling sessions • Case studies of process failures and redesign • Group collaboration sessions for project work • Individual supervision for capstone project Assessment Methods • Process analysis assignment • Process modeling exercise • Capstone project (written report + presentation) • Progress meetings and feedback sessions

6. Exercise professional judgment by integrating technical knowledge, analytical insights, and ethical considerations in recommendations and decision-making.	improvement or transformation project. 8. Present and defend professional-grade strategic recommendations with clarity, responsibility, and organizational awareness.	
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COURSE CONTENTS

Topics	Full-time			
	Contact work hours and planned learning activities		Independent work hours	Total
	Lectures	Seminars		
1. Business Analytics: Business Process Definition and Business Process Analysis	2	2	16	20
2. UML 2.0 Diagrams	2	4	14	20
3. Microsoft Visio / IBM Blueworks Live / BPMN Program Presentation	2	4	14	20
4. Process Models	2	4	14	20
5. BPM (Business Process Management)	2	4	14	20
6. Management Information System	2	4	14	20
7. Process Performance Assessment	2	4	14	20
8. Project	2	6	32	40
Overall	16	32	132	180

LITERATURE

Required reading
1. Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. (2018). <i>Fundamentals of Business Process Management</i>. 2. Harmon, P. (2019). <i>Business Process Change: A Business Process Management Guide</i>. 3. Jeston, J. (2022). <i>Business Process Management: Practical Guidelines to Successful Implementations</i>. 4. vom Brocke, J. & Mendling, J. (Eds.). (2017). <i>BPM Body of Knowledge</i>. 5. Hammer, M. (1990). <i>Reengineering Work: Don't Automate, Obliterate</i>. HBR. 6. Van der Aalst, W. (2016). <i>Process Mining: Data Science in Action</i>.

ASSESSMENT

Assessment criteria	Weighting percentage (%)
Attendance and Participation – Regular attendance and active participation in lectures, seminars, and discussions.	10%
BPMN Modeling Task – Development of a structured business process model using BPMN notation, demonstrating correct representation of activities, events, gateways, roles, and process flow logic.	20%
Process Analysis Assignment (Classroom Activities / Case Work) – Analysis of a business process to identify inefficiencies, bottlenecks, and improvement opportunities using process management tools and methods.	20%
Extra-curricular Work – Independent learning activities such as additional BPMN practice, case studies, readings, and preparation for assignments and assessments.	10%
Capstone Graduation Project (Written + Oral Defense) – Comprehensive process improvement project involving analysis, BPMN modeling, redesign of a process, and presentation of results with justification of improvements and defense of decisions.	40%

CAPSTONE GRADUATION PROJECT

The Capstone Graduation Project is the culminating assessment of the Business Process Management module.

It provides learners with the opportunity to **demonstrate full mastery** of:

- business process analysis
- process modeling (BPMN)
- problem identification and diagnosis
- process redesign and improvement
- integration of sustainability, performance metrics, and digital/AI opportunities
- justification of managerial decisions
- professional communication and presentation skills

The project requires learners to apply BPM principles to a **real or simulated organization**, producing a strategic, analytically rigorous, and professionally structured process improvement proposal.

STRUCTURE OF THE WRITTEN REPORT

I. Introduction

- Organization/industry background
- Problem or inefficiency definition
- Project objectives and scope

II. Current State Analysis (AS-IS)

- Process description
- BPMN diagram of the existing process
- Identification of bottlenecks, risks, sustainability issues, and inefficiencies
- Data/evidence collected (qualitative or quantitative)

III. Diagnosis and Gap Analysis

- Analysis using BPM tools (value stream mapping, root cause analysis, SIPOC, etc.)
- Identification of gaps between actual and desired performance

IV. Proposed Process Redesign (TO-BE)

- Redesigned BPMN model
- Proposed improvements (automation, AI opportunities, sustainability integration, waste reduction, communication flow redesign, etc.)
- Required resources and changes

V. Performance Measurement & KPIs

- Key performance indicators for the redesigned process
- Expected performance improvements

VI. Implementation Plan

- Step-by-step roadmap
- Risk assessment and mitigation
- Change management considerations

VII. Conclusion

- Summary of impact
- Strategic value of the redesign
- Future recommendations

VIII. Annexes

- Diagrams
- Additional analysis
- Interview notes or data

ORAL DEFENSE REQUIREMENTS

Format

- Individual presentation (10–15 minutes)
- Q&A session with instructor(s) or committee (10 minutes)

Content

- Problem definition and significance
- AS-IS analysis and BPMN model
- Key diagnostic insights
- Redesigned TO-BE model
- KPIs and expected improvements
- Implementation recommendations

Evaluation Criteria

- Clarity and professionalism
- Ability to justify analytical choices
- Logical reasoning and evidence
- Understanding of BPM concepts
- Ability to respond to questions
- Effective visual communication

EXAMPLES OF POSSIBLE CAPSTONE TOPICS

- Redesigning the customer onboarding process in a bank
- Improving procurement workflow in a manufacturing company
- Optimizing HR recruitment and selection processes
- Streamlining inventory management using automation
- Reducing waste and inefficiencies in a hospitality service chain
- Integrating AI into a marketing analytics workflow

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UNESCO CHAIR ON JUSTICE AND GOOD GOVERNANCE FOR SUSTAINABLE
PEACE AND DEVELOPMENT

MICRO-CREDENTIAL PROGRAM

**Law- And Policymaking Laboratory (EIU)
Theory, Practice, And Innovation in
Contemporary Law-Making**

**Current Special Track:
Reproduethics, and Emerging Technologies**

MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Law- and Policymaking Laboratory: Theory, Practice, and Innovation in Contemporary Law-Making Current Special Track: Reproductive Rights, Bioethics, and Emerging Technologies
Awarding institution	Eurasia International University (Armenia)
ECTS / Credits	3 ECTS
Duration	Short intensive micro-credential (approximately 4–6 weeks), combining lectures, seminars, workshops, and simulation laboratory sessions.
Mode of Delivery	Blended learning (on-site sessions combined with guided independent study and simulation-based group work)
Language of Instruction	English
Main Objective	The objective of this micro-credential is to develop advanced competencies in jurisprudence and evidence-informed policymaking, enabling participants to design high-quality, human-centred, and ethically responsible legislation. The course focuses on legislative quality, Better Regulation principles (OECD/SIGMA standards), human rights compliance, and governance of emerging technologies. Through an interdisciplinary simulation, participants gain practical experience in drafting legislation, conducting impact assessments, and addressing complex bioethical and legal challenges.
Target Participants & Participation Prerequisites	• Master's and advanced Bachelor's students in Law, Public Policy, Political Science, International Relations, Public Administration, or related fields • Early-career professionals in government institutions, regulatory bodies, NGOs, or international organizations • Policy advisors, legal drafters, and governance practitioners seeking upskilling in Better Regulation and legislative design • Participants should have basic familiarity with legal systems or public policy concepts • Strong analytical skills and ability to engage in interdisciplinary teamwork are recommended
Admission Requirements	• Completed Bachelor's degree (or currently enrolled in a relevant higher education program) • Proficiency in English (minimum B2 level or equivalent) • Motivation statement (short paragraph outlining interest in lawmaking, governance, or policy design) • No prior advanced legal drafting experience required, but foundational knowledge of law or public policy is an advantage

Programme competences to be developed

This micro-credential develops competences in:

- understanding legislation as a governance instrument rather than merely a technical legal product;
- applying principles of jurisprudence and legislative quality;
- designing legislation under conditions of technological and ethical uncertainty;
- integrating legal, ethical, medical, social, and governance considerations into policymaking;
- applying EU Better Regulation standards and OECD/SIGMA principles in legislative processes;

- conducting stakeholder-oriented and evidence-informed legislative analysis;
- assessing compatibility of domestic legislation with international human rights and bioethics standards;
- drafting clear, implementable, and future-oriented legal provisions;
- negotiating legislative solutions in interdisciplinary and politically sensitive contexts;
- critically reflecting on for whom legislation is drafted and whose interests it prioritizes.

Conceptual and Methodological Framework

The micro-credential is conceptually grounded in contemporary approaches to legislation and governance that understand lawmaking not merely as the production of legal norms, but as a process of managing complex societal transformations in conditions of technological acceleration, ethical uncertainty, and institutional interdependence.

The programme combines:

- jurisprudence and legislative theory;
- EU Better Regulation methodology;
- OECD/SIGMA principles of evidence-informed policymaking;
- interdisciplinary governance approaches;
- and emerging UNESCO frameworks on transformative and anticipatory governance.

The course is particularly informed by recent developments within the UNESCO MOST (Management of Social Transformations) Programme, which increasingly conceptualizes governance as a process of navigating social, technological, and normative transformations through interdisciplinary, inclusive, and future-oriented policymaking.

The programme approaches legislation as:

- a governance instrument;
- a framework for balancing competing rights and interests;
- and a mechanism for shaping long-term societal development.

Particular emphasis is placed on:

- anticipatory governance;
- human-centred regulation;
- interdisciplinary legislative design;
- future-oriented policymaking;
- and transformative governance approaches.

The Law- and Policymaking Laboratory functions as:

- an interdisciplinary policy laboratory;
- a simulation-based governance environment;
- and a practical platform for developing evidence-informed, ethically aware, and internationally compatible legislative solutions.

The simulation methodology reflects contemporary international approaches to collaborative and transformative governance in which legislation emerges through interaction between legal expertise, scientific knowledge, ethical reflection, public policy analysis, and stakeholder participation.

Learning outcomes of the course unit

Teaching and learning and assessment methods

Knowledge and Understanding 1. Explain legal and ethical challenges related to assisted reproductive technologies and posthumous reproductive rights. 2. Describe international human-rights and bioethics frameworks applicable to reproductive governance. 3. Understand contemporary legal debates concerning embryo status, reproductive autonomy, surrogacy, and future-child interests. Skills 4. Analyze legislative gaps revealed by complex reproductive-rights disputes. 5. Prepare legislative and policy responses to governance challenges in the field of reproductive technologies. 6. Conduct human-rights and bioethics compatibility assessments of draft reproductive legislation. 7. Participate in interdisciplinary legislative negotiations concerning morally contested regulatory issues. Ability and Responsibility 8. Demonstrate ethical awareness and professional responsibility in developing legislation affecting reproductive autonomy and emerging medical technologies. 9. Balance constitutional rights, medical realities, ethical concerns, and governance objectives in legislative decision-making. 10. Produce legislative proposals capable of responding to socially sensitive and technologically complex policy challenges.	Teaching and Learning Methods • Interactive lectures • Legislative drafting workshops • Better Regulation exercises • Stakeholder-mapping workshops • Human-rights compatibility analysis • Comparative case-study analysis • Interdisciplinary group work • Policy-design laboratories • Simulation-based legislative negotiations • Expert guest sessions • Reflective discussions Assessment Methods • Legislative quality analysis • Draft legislative provisions assessment • Better Regulation / impact assessment file • International compatibility memorandum • Participation in simulation exercise • Group policy presentation • Reflective analytical paper
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COURSE CONTENTS

Topics	Full-time			
	Contact work hours and planned learning activities		Independent work hours	Total
	Lectures	Seminars		
1. Introduction to Legisprudence and Contemporary Lawmaking	2	2	4	8
2. Legislative Quality, Legal Certainty, and Better Regulation	2	2	6	10
3. OECD/SIGMA Standards and Evidence-Informed Policymaking	2	2	4	8

4. Stakeholder-Oriented and Human-Centred Legislation	2	2	6	10
5. Innovative Approaches to Lawmaking and Regulation of Emerging Technologies	2	2	6	10
6. Human Rights, Bioethics, and International Standards in Legislation	2	2	6	10
7. Legislative Drafting Workshop	2	2	6	10
8. Simulation Laboratory: Designing Legislation on Reproductive Rights, Bioethics, and Emerging Technologies	4	4	16	24
Overall	16	16	58	90

SPECIAL MODULE

Simulation Laboratory: Designing Legislation on Reproductive Rights, Bioethics, and Emerging Technologies

The practical component of the micro-credential is built around a complex interdisciplinary legislative simulation inspired by recent judicial proceedings in Dnipro, Ukraine, concerning disputes over posthumous reproductive rights and frozen embryos.

The real case involved a conflict between a widow and the parents of her deceased husband regarding the control and possible future use of cryopreserved embryos created through IVF treatment. The first-instance court decision generated significant legal and ethical controversy because it treated embryos as divisible legal interests and ordered part of the embryos to be transferred to the deceased husband's parents for possible surrogacy arrangements.

The controversy exposed substantial legislative gaps concerning:

- reproductive autonomy;
- legal status of embryos;
- posthumous parenthood;
- consent after death;
- rights of extended family members;
- ethical limits of assisted reproductive technologies;
- interaction between family law, inheritance logic, and human rights.

The simulation does not reproduce the judicial proceedings themselves. Instead, participants simulate the work of an emergency interdisciplinary legislative commission established in the fictional Republic of Norvia after a similar controversy triggered a nationwide governance crisis.

Participants act as:

- legislative drafters;
- constitutional lawyers;
- bioethics specialists;
- medical and ART experts;
- parliamentarians;
- civil society representatives;
- international legal advisors;
- future-generations and long-term governance rapporteurs.

The objective of the simulation is to prepare:

- a draft Law on Assisted Reproduction and Posthumous Reproductive Rights;
- an impact assessment and Better Regulation file;
- an international compatibility memorandum;
- a legislative justification report;
- and a public communication strategy.

The simulation integrates:

- legisprudence;
- Better Regulation methodology;
- OECD/SIGMA governance principles;
- ECHR standards;
- UNESCO bioethics principles;
- and interdisciplinary approaches to policymaking.

Particular emphasis is placed on:

- for whom legislation is drafted;
- how legislation allocates rights and responsibilities;
- how law responds to technological change;
- and how governance systems manage morally contested issues.

LITERATURE

Required reading

1. Luc J Wintgens (ed), *Legisprudence: Practical Reason in Legislation* (Ashgate 2002).
2. Helen Xanthaki, *Drafting Legislation: Art and Technology of Rules for Regulation* (2nd edn, Hart Publishing 2022).
3. Jeremy Waldron, *The Dignity of Legislation* (Cambridge University Press 1999).
4. *Legislation in Europe: A Country by Country Guide*, Edited by Ulrich Karpen and Helen Xanthaki, Hart Publishing, 2020. The book includes theoretical part as well as country reports with the references to domestic legislative and methodological regulations.
5. Helen XANTHAKI, Legislative complexity and monitoring the application of EU law [https://www.europarl.europa.eu/RegData/etudes/IDAN/2025/776370/IUST_IDA\(2025\)776370_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2025/776370/IUST_IDA(2025)776370_EN.pdf)
6. Bar-Siman-Tov, Ittai and Xanthaki, Helen, *Legislation, Legisprudence and Comparative Law* (August 1, 2023). *Elgar Encyclopedia of Comparative Law* (Jan M. Smits et al., ed., Dec. 2023), Bar Ilan University Faculty of Law Research Paper No. 4502750, Available at SSRN: <https://ssrn.com/abstract=4527422>
7. Virgilio Zapatero Gómez. *The Art of Legislating*, Springer Cham, 2019.
8. Charting the course to better EU law-making: optimisation of EU Treaties through inter-institutional cooperation with the European Committee of the Regions, 2024, www.biicl.org/documents/185_final_cor_report.pdf
9. Alemanno A. How Much Better is Better Regulation?: Assessing the Impact of the Better Regulation Package on the European Union – A Research Agenda. *European Journal of Risk Regulation*. 2015;6(3):344-356. doi:10.1017/S1867299X00004736
10. *Exploring the Province of Legislation: Theoretical and Practical Perspectives in Legisprudence*, edited by Francesco Ferraro, Silvia Zorzetto, Springer, 2022.
11. *Debating Laws: Studies on Parliamentary Justification of Legislation*, Ed. by A. Daniel Oliver-Lalana, Springer, 2024.
12. *Handbook on European Union Public Administration*, Elgar Handbooks in Public Administration and Management, Edited by Gijs Jan Brandsma, Elgar, 2024.

13. Cairney, P., Oliver, K. (2020). How Should Academics Engage in Policymaking to Achieve Impact? *Political Studies Review*, 18(2), 228-244.
14. Journal: *The Theory and Practice of Legislation*, <https://www.tandfonline.com/journals/rtpl20>
15. European Commission, Better Regulation Guidelines (2021) and Toolbox (2025), https://commission.europa.eu/law/law-making-process/better-regulation/better-regulation-guidelines-and-toolbox_en
16. OECD (2025), Better Regulation Practices across the European Union 2025, OECD Publishing, Paris, <https://doi.org/10.1787/6f007516-en>.
17. Council of Europe, Convention on Human Rights and Biomedicine (Oviedo Convention).
18. UNESCO Universal Declaration on Bioethics and Human Rights.
19. Selected judgments of the European Court of Human Rights on reproductive rights and bioethics.
20. UNESCO MOST Programme materials on transformative governance and anticipatory policymaking.

ASSESSMENT

Assessment criteria	Weighting percentage (%)
Attendance	5%
Participation and engagement	15%
Simulation preparation and negotiations	30%
Group project	20%
Individual project	30%

GROUP/ INDIVIDUAL PROJECTS

Topics
GROUP PROJECT OPTIONS 1. Drafting a Law on Posthumous Reproductive Rights 2. Designing a National Bioethics Governance Framework 3. Better Regulation Impact Assessment for Emerging Technologies Legislation 4. Comparative Analysis of European Approaches to Assisted Reproduction Regulation 5. Human-Rights Compatibility Review of Reproductive Technologies Legislation
INDIVIDUAL PROJECT OPTIONS 1. Legislative Quality Audit of Existing National Legislation 2. Reflective Paper: "For Whom Is Legislation Drafted?" 3. Comparative Analysis of Bioethics Regulation Models 4. Policy Brief on Human-Centred Regulation of Emerging Technologies 5. International Compatibility Memorandum on Reproductive Rights Legislation

YEREVAN STATE UNIVERSITY

YEREVAN STATE UNIVERSITY

MICRO-CREDENTIAL PROGRAM:

Soft Skills (YSU)

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Programme Title	SOFT SKILLS
Awarding institution	Yerevan State University (Armenia)
ECTS / Credits	2 ECTS (Approx. 25–30 hours of workload per credit)
Course Level (NQF)	Lifelong Learning Aligned with Armenian NQF Level 6 / EQF Level 6
Duration	4 weeks (flexible scheduling) Approx. 50–60 total learning hours
Mode of Delivery	Hybrid (Onsite + Online) - Onsite: Workshops, role-plays, and group projects conducted at YSU. - Online: Self-paced learning modules, video lectures, discussion forums, and feedback sessions through the YSU learning platform. (Alternative modes—fully online or onsite—may be offered depending on cohort needs)
Language of Instruction	Armenian
Main Objectives	- To strengthen learners' communication and collaboration skills for professional and academic contexts. - To enhance self-awareness and emotional intelligence for effective interaction. - To foster problem-solving, adaptability, and critical thinking in dynamic environments. - To promote leadership and teamwork competencies applicable across disciplines. - To encourage reflective and continuous personal development as part of lifelong learning.
Target Participants	- Adult learners seeking professional development in interpersonal skills. - University students preparing for entry into the labor market. - Young professionals and employees aiming to enhance workplace effectiveness. - Individuals engaged in continuous learning or reskilling pathways.
Participation Prerequisites	- No formal academic prerequisites. - Proficiency in Armenian or English. - Access to a digital device and reliable internet connection (for online components). - Motivation to develop interpersonal and professional competencies.

Programme description

The **Soft Skills Micro-Credential Program** offered by Yerevan State University (YSU) is designed to equip learners with essential interpersonal, communicative, and behavioral competencies that are critical for both academic achievement and long-term professional success.

Through a combination of interactive workshops, simulations, collaborative activities, and reflective practice, participants will develop and strengthen key transferable skills, including effective communication, teamwork, emotional intelligence, adaptability, problem-solving, and leadership.

The program supports YSU's Lifelong Learning (LLL) strategy and contributes to Armenia's broader national priorities in enhancing employability, fostering innovation, and strengthening workforce readiness in a rapidly evolving labor market.

Learning outcomes of the course unit	Teaching and learning and assessment methods
Upon successful completion of the course, learners will be able to: LO1: Demonstrate effective verbal and written communication skills. LO2: Apply emotional intelligence and empathy in group and workplace settings. LO3: Collaborate successfully in diverse teams and resolve conflicts constructively. LO4: Exhibit leadership, adaptability, and responsibility in professional situations. LO5: Reflect critically on personal learning and identify strategies for self-improvement.	Teaching and Learning Methods • Interactive workshops • Role-play and simulations • Group work and peer learning • Case studies and discussions • Presentations • Reflective practice (learning journals)

Activity Type	Description	Estimated Hours
Workshops & Seminars	Facilitated sessions on communication, teamwork, and leadership	10
Case Studies & Role-Plays	Practice of real-life communication and conflict scenarios	10
Group Project	Collaborative problem-solving task and presentation	10
Reflective Portfolio	Self-assessment of learning outcomes and skill application	10
Independent Study	Online resources, readings, and multimedia learning	10
Total Workload		50–60 hours (2 ECTS)

ASSESSMENT

Assessment Component	Description	Weight
Participation & Engagement	Active contribution to workshops, discussions, and peer learning	20%
Group Project & Presentation	Team-based collaboration demonstrating communication and leadership	30%
Reflective Portfolio	Written reflection on learning process and outcomes	20%
Final Individual Task	Case-based assessment or practical scenario analysis	30%

Total		100% (minimum pass mark: 60%)
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Stackability, Recognition, and Quality Assurance Framework

Stackability:

This micro-credential can be combined with other YSU LLL courses—such as Leadership Essentials, Digital Collaboration, or Effective Communication—toward a Professional Skills Certificate.

Recognition:

- Recognized within YSU’s Lifelong Learning Framework.
- May be acknowledged for credit transfer or exemption within related degree or professional programs, subject to institutional policy.

Quality Assurance Mechanisms:

- Developed under the supervision of the YSU Quality Assurance Office.
- Learning outcomes mapped to NQF/EQF descriptors.
- Follows European Standards and Guidelines (ESG) for quality in higher education.
- Reviewed periodically based on learner feedback and employer consultation.

Micro-Course Rationale:

The Soft Skills micro-credential responds to Armenia’s national needs for workforce flexibility, communication competency, and lifelong learning. It provides accessible, short-cycle learning opportunities that enhance employability and professional readiness, contributing to Armenia’s higher education modernization and alignment with European micro-credential standards.

YEREVAN STATE UNIVERSITY

YEREVAN STATE UNIVERSITY

MICRO-CREDENTIAL PROGRAM:

**30-Credit Teacher Certification Training
Course (YSU)**

MICRO-CREDENTIAL PROGRAM:

**30-Credit Teacher Certification Training
Course (YSU)**

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MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	30-CREDIT TEACHER CERTIFICATION TRAINING COURSE
Awarding institution	Yerevan State University (Armenia)
ECTS / Credits	30 ECTS
Course Level (NQF)	Upon successful completion, participants will receive a bilingual teacher certification training course certificate awarded by Yerevan State University. The certificate will include: • Program title and issuing institution; • Learner's name and completion date; • Achieved learning outcomes; • Names of studied subjects, academic hour, credit value and grade.
Duration	3 Months
Mode of Delivery	Hybrid (Onsite + Online) • Onsite: Lectures, Interactive workshops, and collaborative projects at YSU. • Online: Learning management platform, multimedia resources, and guided discussions.
Language of Instruction	Armenian
Main Objectives	The program aims to: 1. Develop learners' interpersonal and communication skills for effective collaboration especially with children. 2. Strengthen emotional intelligence and adaptability in diverse workplace settings. 3. Gain professional knowledge and abilities/skills that align with the educational results set by the program. 4. Successfully carry out both the theoretical material and the practical work as outlined in their personal educational plan. 5. Achieve results that comply with the defined professional standards and criteria of the program (as determined by YSU). This micro-credential supports Armenia's national goals for making qualified specialists to teach at school.
Target Participants	Adult learners with a higher education degree.
Participation Prerequisites	• Higher education in the given subject, • Higher education and 80 or more credits in the given subject, • Higher education, 40-79 credits in the given subject and general education obligation to participate in the upcoming voluntary attestation.

Programme description

30-CREDIT TEACHER CERTIFICATION TRAINING COURSE offered by Yerevan State University is designed to develop the participant's pedagogical-psychological and educational-methodological skills.

The program provides professional and interpersonal relationship building skills.

The course structure mandates the implementation of an individual study plan for each participant, which includes both theoretical study and practical work.

Throughout the program, participants study a range of subjects, conduct research, complete a pedagogical practicum, and take final examinations.

Upon completion, participants are awarded a total of 30 ECTS credits. Those who accumulate at least 30 credits receive a bilingual teacher certification.

Learning outcomes of the course unit	Teaching and learning and assessment methods
Upon successful completion of the program, participants will be able to: LO1. Teach in general education institutions of the Republic of Armenia. LO2. Demonstrate pedagogical-psychological and educational-methodological skills. LO3. Show quick orientation and organizational skills in a professional environment. LO4. Build healthy interpersonal relationships, master the skills of managing situations and making the right decisions. LO5. Apply the acquired experience in the work environment, come up with new proposals and implement innovative projects	Teaching and Learning Methods • Interactive workshops • Role-play and simulations • Group work and peer learning • Case studies and discussions • Presentations • Reflective practice (learning journals)

Name of Subject	Academic hour	Credit
Information and Communication Technologies	150	5
Pedagogy	120	4
Psychology	120	4
Contemporary Educational Technologies	120	4
Methods of Teaching	120	4
Research Work	90	3
Pedagogical Internship	180	6

ASSESSMENT

Name of Subject	Presence	Grade
Information and Communication Technologies	80%	Min. 10 / Max. 20
Pedagogy	80%	Min. 10 / Max. 20
Psychology	80%	Min. 10 / Max. 20
Contemporary Educational Technologies	80%	Min. 10 / Max. 20
Methods of Teaching	80%	Min. 10 / Max. 20
Research Work	80%	Min. 10 / Max. 20
Pedagogical Internship	80%	Pass

CENTER FOR ECOLOGICAL-NOOSPHERE STUDIES (CENS) OF NAS RA

CENTER FOR ECOLOGICAL-NOOSPHERE STUDIES (CENS) OF NAS RA

MICRO-CREDENTIAL PROGRAM:

Basics of Environmental Science (CENS)

MICRO-CREDENTIAL PROGRAM:

Basics of Environmental Science (CENS)

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MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Basics of environmental science
Awarding institution	Center for Ecological-Noosphere Studies (CENS) of NAS RA
ECTS / Credits	2-3 ECTS
Course Level (NQF)	The course is designed for advanced undergraduate students, graduate students, early-career researchers, and professionals seeking to strengthen their knowledge and practical skills in environmental sciences and sustainability (NQF 6-7)
Duration	7-9 weeks (from June to September) • 30% (18–21 hours) – Lectures • 25% (15–18 hours) – Seminars, practical exercises, and discussions • 25% (15–18 hours) – Independent study • 20% (12–14 hours) – Research and project work • Total student workload: approximately 60–70 hours
Mode of Delivery	In-person (face-to-face) instruction, combining lectures, practical exercises, case studies, and interactive discussions
Language of Instruction	Armenian
Main Objectives	The course aims to: • Introduce fundamental principles and concepts of environmental science. • Introduce the major environmental challenges facing Armenia; • Develop analytical and critical thinking skills in assessing environmental data. • Strengthen participants' ability to connect scientific knowledge to policy and management.
Target Participants	The course is open to students, early-career researchers, professionals, representatives of governmental and non-governmental organizations, who are engaged in environmental sciences, natural sciences, or related fields.
Participation Prerequisites	Participants will be selected based on: • application review, • and interview results. Requirements • basic knowledge in a relevant field, • personal laptop, • proficiency in Armenian and English.
Assessment	• Module quizzes – 20% • Practical assignments – 30% • Final integrative project – 40% • Participation in discussion forums – 10% A grading scale threshold - 70%

Programme description

This course provides an interdisciplinary introduction to environmental sciences, focusing on Armenia's environmental challenges, sustainable development issues, and the scientific approaches used to study them.

The program integrates theoretical knowledge with practical and research-oriented approaches, with particular emphasis on:

- Armenia's ecosystems;
- Anthropogenic impacts on the environment;
- Environmental monitoring and assessment;
- Environmental risk assessment;
- Applications of GIS (Geographic Information Systems) and remote sensing technologies;
- Fundamentals of ecotoxicology.

Throughout the course, participants will work with experienced scientists and environmental professionals, gain insight into the activities of CENS's scientific departments, and acquire hands-on experience through the analysis and interpretation of real-world environmental data.

Learning outcomes of the course unit	Teaching and learning and assessment methods
Upon successful completion of the course, participants will be able to: LO1: Analyze environmental issues using scientific approaches and methodologies; LO2: Apply GIS (Geographic Information Systems) and remote sensing tools in environmental studies; LO3: Process, manage, and analyze environmental data; LO4: Understand the fundamental principles of ecotoxicology and environmental risk assessment; LO5: Design and implement basic environmental monitoring and research projects; LO6: Apply data-driven approaches to the assessment of sustainable development	• Lectures and expert talks by CENS researchers • Reading and discussion of scientific papers • Field or laboratory demonstration (optional, hybrid format) • Group work and problem-based learning • Mini-research project or environmental issue analysis

Detailed Module Breakdown

Topic 1 — Fundamentals of Environmental Sciences

- Course introduction
- Sustainable Development Goals (SDGs)
- Global and local environmental issues
- Introduction to the scientific departments of CENS
- Human impact on the environment

Topic 2 — Environmental Monitoring and Data Analysis

- Earth systems and environmental monitoring
- Fundamentals of sampling
- Environmental data collection and analysis

Topic 3 — GIS and Remote Sensing

- Fundamentals of GIS and remote sensing
- Spatial data models
- Applications of remote sensing in environmental research

Topic 4 — Ecotoxicology

- Introduction to ecotoxicology
- Classification of toxic substances
- Mechanisms and pathways of toxic effects

Topic 5 — Research and Project Work

- Research methodology and logic
- Implementation of project-based assignments
- Final project presentation and defense

THE UNIVERSITY OF GEORGIA

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MICRO-CREDENTIAL PROGRAM:

**Microcontroller Programming for Drone
Applications (UG)**

MICRO-CREDENTIAL PROGRAM:

**Microcontroller Programming for Drone
Applications (UG)**

WWW.UG.EDU.GE

MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Microcontroller Programming for Drone Applications
Awarding institution	The University of Georgia
ECTS / Credits	75 hours, 3 ECTS
Duration	8 weeks
Mode of Delivery	Face-to-face with practical laboratory sessions
Language of Instruction	English / Georgian
Recognition / stackability possibilities	Can be recognised as part of a broader micro-credential pathway in embedded systems, robotics, IoT, or drone technologies. It may be stacked with courses in sensors, GIS, AI, and autonomous systems.
Main Objective	This micro-credential introduces learners to microcontroller programming for drone applications. Learners gain practical skills in embedded programming, sensor integration, communication protocols, and basic control logic used in UAV systems.
Target Participants	Undergraduate students, robotics enthusiasts
Entrance requirements	• Academic prerequisites: Basic knowledge of programming and electronics is recommended. • Professional background: Not mandatory, but experience in engineering, ICT, robotics, or electronics is an advantage. • Digital skills level: Basic to intermediate digital literacy; ability to use a computer, install software, and work with development environments. • Language level: Recommended B1–B2 level in the language of instruction. • Technical requirements: Computer/laptop, microcontroller development board such as Arduino, STM32, ESP32, or equivalent, basic electronic components, USB cable, drone-related sensors or simulation tools where available.
Instructional design & education technology	Pedagogical approach: Competence-based, learner-centred, practice-oriented, and project-based. Digital tools / platforms used: LMS, Arduino, simulation tools, GitHub or institutional repository, online quizzes. Support provided to learners: Tutor consultations, laboratory guidance, technical troubleshooting, online discussion forum, feedback on project progress.
Assessment & quality assurance	Assessment methods: Quizzes, laboratory assignments, practical tasks, final project, presentation. Grading approach / pass criteria: Recommended pass threshold: 81% or higher. Final assessment may include a working prototype or simulation-based project.

Internal quality assurance procedures: Review of syllabus, assessment criteria, learning outcomes, and teaching materials by academic staff and partner institution.

Feedback collection from learners: Online surveys, course evaluation forms, reflection reports, and feedback sessions.

Target competences & learning outcomes

Target competences:

Learners will gain competences in embedded programming, sensor integration, real-time control logic, and microcontroller-based drone application development.

Learning outcomes:

After completing the course, learners will be able to:

1. Introduction of electronic, basic components and its characteristics.
2. Explain the role of microcontrollers in drone architecture and embedded control systems.
3. Configure a microcontroller development environment and upload basic programs.
4. Use digital and analog input/output for controlling drone-related components.
5. Implement basic control logic for drone applications.
6. Develop and present a small drone-related embedded systems project.

Alignment with labour-market needs:

The course responds to demand for skills in embedded systems, robotics, UAV technologies, automation, and IoT-based applications.

Mapping to frameworks:

Recommended EQF Level: 5–6, depending on final workload and assessment depth.

Employability dimension:

The course improves learners' career prospects in robotics, drone services, embedded systems, smart agriculture, environmental monitoring, logistics, and engineering support roles.

Teaching plan & structure

Module / Unit	Main topics	Learning hours
Module 1	Introduction of electronic, basic components and its characteristics.	8
Module 2	Microcontroller programming basics	8
Module 3	Sensors and actuators for drone applications	8
Module 4	Basic control algorithms and data processing	8
Module 5	Final practical project	8 – 10
Teaching methods: Lectures, workshops, laboratory exercises, simulations, case studies, project-based learning.		
Work-based / practice-oriented components: Learners complete hands-on tasks using microcontrollers and develop a practical mini-project related to drone applications.		

THE UNIVERSITY OF GEORGIA

THE UNIVERSITY OF GEORGIA

MICRO-CREDENTIAL PROGRAM:

GIS Application for Tourism (UG)

MICRO-CREDENTIAL PROGRAM:

GIS Application for Tourism (UG)

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MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	GIS Application for Tourism
Awarding institution	The University of Georgia
ECTS / Credits	75 hours, 3 ECTS
Duration	8 weeks
Mode of Delivery	Face-to-face with practical laboratory sessions
Language of Instruction	English / Georgian
Recognition / stackability possibilities	Can be stacked with courses in digital tourism, spatial data analysis, smart cities, cultural heritage mapping, and regional development.
Main Objective	This micro-credential introduces learners to the use of GIS in tourism planning and destination development. Learners work with spatial data, create thematic maps, analyses accessibility, and design GIS-based tourism products.
Target Participants	Students
Entrance requirements	• Academic prerequisites: No advanced academic prerequisites required. Basic geography, tourism, or ICT knowledge is useful. • Professional background: Experience in tourism, geography, planning, cultural heritage, or local development is an advantage but not mandatory. • Digital skills level: Basic digital literacy; ability to use web platforms, mobile apps and desktop software. • Language level: Recommended B1–B2 level in English. • Technical requirements: Computer/laptop, internet access, QGIS or ArcGIS Online access, Google Earth, OrganicMap, access to open spatial datasets.
Instructional design & education technology	Pedagogical approach: Learner-centred, competence-based, applied, and problem-based. Digital tools / platforms used: QGIS, ArcGIS Online, Google Earth, OpenStreetMap, online survey/mapping tools, OrganicMap app, institutional repository. Support provided to learners: Step-by-step GIS tutorials, instructor feedback, technical support, online consultations, peer review.
Assessment & quality assurance	Assessment methods: Practical GIS assignments, quizzes, portfolio, final GIS project, presentation. Grading approach / pass criteria: Recommended pass threshold: 71% or higher. Final assessment should include a GIS-based tourism output and short presentation. Internal quality assurance procedures: Review of learning outcomes, GIS exercises, assessment rubrics, and final project criteria by academic and professional experts. Feedback collection from learners: Course evaluation forms, learner satisfaction surveys, reflection activities, and feedback discussions.

Target competences & learning outcomes

Target competences:

Learners will gain competences in spatial data collection, tourism mapping, GIS analysis, digital storytelling, and tourism route planning.

Learning outcomes:

After completing the course, learners will be able to:

1. Explain the role of GIS in tourism planning and destination management.
2. Identify, collect, and organise spatial data relevant to tourism.
3. Create thematic maps for tourism attractions, services, routes, and infrastructure.
4. Use GIS tools to analyse accessibility, visitor flows, and tourism potential.
5. Design tourism routes using spatial data and mapping tools.
6. Prepare interactive maps or digital tourism products for dissemination.
7. Present a GIS-based tourism project addressing a real or simulated local tourism need.

Alignment with labour-market needs:

The course supports growing demand for digital and spatial skills in tourism, destination management, cultural heritage, regional development, smart tourism, and local governance.

Mapping to frameworks:

Recommended EQF Level: 4–6, depending on learner profile and final project complexity.

Employability dimension:

The course strengthens employability in tourism agencies, municipalities, NGOs, cultural heritage organisations, destination management organisations, and GIS support roles.

Teaching plan & structure

Module / Unit	Main topics	Learning hours
Module 1	Introduction to GIS and tourism applications	2
Module 2	Spatial data sources for tourism	4
Module 3	Creating and styling tourism maps	4
Module 4	Route planning and accessibility analysis	4
Module 5	Interactive maps and digital storytelling	2

Teaching methods: Lectures, GIS workshops, case studies, map-based assignments, project-based learning, on site hiking.

Work-based / practice-oriented components: Learners develop a GIS-based tourism product, such as a thematic tourism map, route map, or interactive destination guide.

THE UNIVERSITY OF GEORGIA

THE UNIVERSITY OF GEORGIA

MICRO-CREDENTIAL PROGRAM:

**Python/R Programming for Data Analysis in
Medicine (UG)**

MICRO-CREDENTIAL PROGRAM:

**Python/R Programming for Data Analysis in
Medicine (UG)**

WWW.UG.EDU.GE

MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Python/R Programming for Data Analysis in Medicine
Awarding institution	The University of Georgia
ECTS / Credits	75 hours, 3 ECTS
Duration	8 weeks
Mode of Delivery	Face-to-face
Language of Instruction	English / Georgian
Recognition / stackability possibilities	Can be stacked with courses in health informatics, biostatistics, AI in medicine, data science, epidemiology, and research methods.
Main Objective	This micro-credential introduces learners to Python and/or R programming for medical data analysis. Learners develop practical skills in data cleaning, descriptive statistics, visualisation, basic analysis, and interpretation of healthcare data.
Target Participants	Medical students
Entrance requirements	• Academic prerequisites: Basic understanding of statistics is recommended. Prior programming experience is useful but not mandatory for beginner-level delivery. • Professional background: Relevant for learners from medicine, healthcare, biology, public health, ICT, or data analysis. • Digital skills level: Basic to intermediate digital literacy; ability to install software and work with files, spreadsheets, and online platforms. • Language level: Recommended B1–B2 level in the language of instruction. • Technical requirements: Computer/laptop, internet access, Python, access to simulated sample medical datasets.
Instructional design & education technology	Pedagogical approach: Competence-based, learner-centred, applied, and project-based, with emphasis on reproducibility and ethical use of medical data. Digital tools / platforms used: LMS, Jupyter Notebook, Google Colab, RStudio, GitHub or institutional repository, online quizzes, data visualisation libraries. Support provided to learners: Coding support, instructor consultations, tutorial videos, guided notebooks, discussion forums, feedback on assignments and final project.
Assessment & quality assurance	Assessment methods: Coding assignments, quizzes, data analysis portfolio, final project, presentation. Grading approach / pass criteria: Recommended pass threshold: 81% or higher. Final assessment should include a reproducible notebook/report and interpretation of results.

Internal quality assurance procedures: Review of syllabus, anonymised datasets, ethical considerations, assessment rubrics, and learning outcomes by academic and professional experts.

Feedback collection from learners: Online feedback forms, course evaluation survey, reflection report, and discussion-based feedback.

Target competences & learning outcomes

Target competences:

Learners will gain competences in programming-based data analysis, medical dataset preparation, descriptive statistics, data visualisation, basic modelling, and ethical handling of health data.

Learning outcomes:

After completing the course, learners will be able to:

1. Explain the role of Python/R in medical and healthcare data analysis.
2. Import, clean, and organise structured health-related datasets.
3. Apply descriptive statistics to medical data.
4. Create visualisations for clinical, epidemiological, or public health data.
5. Interpret data analysis results in a medical or healthcare context.
6. Prepare and present a reproducible mini-project using anonymised medical data.

Alignment with labour-market needs:

The course addresses growing labour-market demand for healthcare professionals and analysts who can work with health data, support evidence-based decision-making, and contribute to digital health transformation.

Mapping to frameworks:

Recommended EQF Level: 5–6, depending on the level of statistical and programming complexity.

Employability dimension:

The course improves career prospects in healthcare analytics, medical research, public health, hospital data management, digital health projects, clinical research support, and data-driven decision-making roles.

Teaching plan & structure

Module / Unit	Main topics	Learning hours
Module 1	Introduction to medical data and programming environments and Python/R basics for data analysis	8
Module 2	Data importing, cleaning, and preparation	8
Module 3	Descriptive statistics and exploratory data analysis, Data visualisation for medical datasets	8
Module 4	Basic statistical tests and interpretation	8
Module 5	Final reproducible data analysis project	8 – 10

Teaching methods: Lectures, coding workshops, guided exercises, case studies, project-based learning, peer discussion.

Work-based / practice-oriented components: Learners analyse anonymised medical or healthcare datasets and produce a small reproducible report or notebook.

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MICRO-CREDENTIAL PROGRAM:

Network Technician (GTU)

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MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Network Technician
Awarding institution	Georgian Technical University
ECTS / Credits	~2–3
Duration	Approximately 50–60 hours (typically 8–10 weeks depending on delivery mode)
Mode of Delivery	Blended
Language of Instruction	English & Georgian.
Main Objectives	An entry-level course introducing fundamental networking concepts, device configuration, and troubleshooting skills needed for IT support and networking roles. The course aims to provide theoretical and practical training in network technologies using network devices and software. During the course, students will learn how to plan, configure, and manage network infrastructure according to the needs of small and medium-sized organizations.
Target Participants	• Students • Entry-level IT professionals • Career changers / unemployed • Individuals seeking entry into networking and IT support roles
Participation Prerequisites	Academic prerequisites: No formal degree required Professional background (if required): Not required (entry-level course) Digital skills level: Basic Language level: English B1–B2 recommended Technical requirements: • Computer or laptop • Stable internet connection • Modern web browser • Network devices (routers, switches) • Optional: access to networking simulation tools (e.g., Packet Tracer)
Instructional Design & Educational Technology	Pedagogical approach: • Competence-based • Learner-centred • Practice-oriented Digital tools / platforms: • Cisco NetAcad LMS • Packet Tracer (network simulation tool) • Online assessments and labs Learner support: • Instructor/tutor guidance (if blended) • Discussion forums • Technical platform support • Self-paced learning resources
Assessment & Quality Assurance	Assessment methods: • Module quizzes • Final assessment

	• Practical lab activities Grading / pass criteria: • Typically 70% or higher to pass • Completion of required labs and assessments Quality assurance: • Standardized Cisco curriculum • Regular updates aligned with industry trends • Instructor training and certification Learner feedback: • End-of-course surveys • Continuous improvement via platform analytics
Recognition	• Prepare learners for entry-level IT roles • Can be stacked toward more advanced Cisco courses (e.g., CCNA track) • Recognized by employers globally in IT and networking sectors

Target Competences & Learning Outcomes

Learning outcomes:

Upon completion, learners will be able to:

- **Knowledge:**
 - o Understand basic networking concepts (IP addressing, protocols, network types)
 - o Identify hardware components (routers, switches, cables)
 - o Explain network security fundamentals
- **Skills:**
 - o Configure basic network devices
 - o Troubleshoot connectivity issues
 - o Use networking tools and simulation software
 - o Apply IP addressing and subnetting basics
- **Competences:**
 - o Work independently on entry-level networking tasks
 - o Support IT infrastructure in small to medium environments
 - o Communicate technical issues effectively

Labour-market alignment:

- Addresses strong demand for entry-level IT support and networking technicians
- Aligns with roles such as Help Desk Technician, Network Support Specialist

Framework alignment:

- Approximate EQF Level: 4–5 (depending on national mapping)

Employability impact:

- Prepares for junior roles in IT support and networking
- Builds foundation for certifications like CCNA
- Enhances job readiness in digital and IT sectors

Target Competences & Learning Outcomes

Modules / Units:

Module Title		Hours	Description
1	Networking Basics	15	Introduction to networks, types, and components
2	Network Protocols & Models	15	OSI & TCP/IP models, communication principles
3	IP Addressing	15	IPv4 basics, subnetting fundamentals
4	Network Devices	15	Routers, switches, and configuration basics
5	Network Security	10	Basic cybersecurity concepts
6	Troubleshooting & Tools	10–15	Diagnostics and problem-solving techniques
Teaching methods:			
• Interactive online modules • Instructor-led sessions (optional) • Simulations and labs (Packet Tracer) • Quizzes and hands-on exercises			
Work-based / practical components:			
• Virtual labs • Real-world scenarios • Device configuration exercises			
Course Syllabus (8 Weeks)			
Week 1: Computer Networking Fundamentals			
• Importance of computer networks • Network types (LAN, WAN, MAN) • Network topologies and standards Practice: Network devices identification; basic network diagram design			
Week 2: Network Devices			
• Routers, switches, access points, modems, firewalls • Wired and wireless connectivity (UTP, fiber optics) Practice: Device connection setup and cable identification			
Week 3: OSI and TCP/IP Models			
• OSI (7 layers) and TCP/IP models • Key network protocols (HTTP, FTP, DNS, DHCP) Practice: Packet Tracer lab; packet analysis			
Week 4: IP Addressing			
• IPv4 structure • Subnetting • Public vs private IP addresses Practice: IP configuration (Windows/Linux); subnetting exercises			
Week 5: Routing and Switching			
• Cisco IOS basics • VLANs • Static vs dynamic routing • Overview of OSPF and RIP Practice: Router and switch configuration; VLAN setup			
Week 6: Wireless Networks			

- Wireless standards
 - Wi-Fi security principles
 - Access point configuration
- Practice: Wi-Fi setup and security configuration

Week 7: Network Security

- Firewalls and VPNs
 - Common network threats
- Lab: Firewall configuration; network monitoring

Week 8: Network Troubleshooting

- Troubleshooting methodology
 - Tools: ping, traceroute, ipconfig
 - Log analysis
- Lab: Diagnose and resolve simulated network issues

MICRO-CREDENTIAL PROGRAM:

Network administration for small and medium organizations including Cisco and Juniper equipment and protocols (GRENA)

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MICROCREDENTIAL PROGRAM DESCRIPTION

Programme Title	Network administration for small and medium organizations including Cisco and Juniper equipment and protocols
Awarding institution	Georgian Research and Educational Networking Association GRENA
ECTS / Credits	50-60 hours, 2 ECTS
Duration	8 weeks
Mode of Delivery	Face-to face
Language of Instruction	Georgian (learning material in English)
Main Objectives	The main objective of this micro-credential is to equip learners with practical, industry-relevant competencies in network administration, enabling them to configure, manage, and troubleshoot Cisco and Juniper-based network infrastructures in small and medium-sized organizations. The course focuses on developing hands-on skills in key networking technologies such as VLANs, routing, switching, security, and network services through a practice-oriented, lab-based learning approach.
Target Participants	Individuals with basic networking knowledge who want to expand their skills in Cisco and Juniper equipment and software for upskilling or reskilling.
Participation Prerequisites	• Academic prerequisites: Not required • Professional background (if required): Not required • Digital skills level: Basic skills • Language level: English B2 • Any technical requirements (software, equipment): Basic knowledge in networking
Instructional Design & Educational Technology	Pedagogical approach: Competence-based, face-to-face, practice-oriented instruction Digital tools: Cisco Packet Tracer Learner support: Instructor support via email and in-class guidance
Assessment & Quality Assurance	Assessment methods: Quizzes and practical lab tasks Grading approach: Minimum 70% required to pass Quality assurance: Continuous monitoring of teaching quality, assessment review, and student feedback analysis Feedback collection: Student questionnaires

Target Competences & Learning Outcomes

Learning outcomes:

By the end of the course, learners will be able to configure Cisco and Juniper routers and switches and implement basic network services in small and medium-sized organizational environments.

Alignment with labour market needs:

The course addresses high-demand networking skills required for entry-level and intermediate IT infrastructure roles.

Framework alignment: N/A

Employability dimension:

Successful completion improves employability in networking, IT support, and infrastructure administration roles.

Target Competences & Learning Outcomes

Module Breakdown

- Basic device configuration
- VLANs
- Inter-VLAN routing
- Spanning Tree Protocol
- EtherChannel
- DHCP
- Access Control Lists (ACLs)
- Routing concepts & static routing
- OSPF
- NAT
- Labs, quizzes, and final exam

Learning Hours

- Total: 50–60 hours

Teaching Methods

- Lectures
- Workshops

Practice Components

- Hands-on labs using Cisco Packet Tracer
- Configuration exercises and troubleshooting tasks

Course Syllabus (8 Weeks)

Week 1: Basic Device Configuration

- Cisco and Juniper device overview
 - CLI basics and navigation
 - Initial device setup
- Practice: CLI access, hostname setup, interface configuration, saving configs

Week 2: VLANs

- VLAN concepts and segmentation
 - Trunking principles
- Practice: VLAN creation, trunk configuration, troubleshooting

Week 3: Inter-VLAN Routing & Spanning Tree

- Inter-VLAN routing concepts
 - Router-on-a-stick
 - STP fundamentals
- Practice: Routing configuration, STP verification, loop prevention

Week 4: EtherChannel & DHCP

- EtherChannel concepts (LACP/PAgP)
 - DHCP configuration
- Practice: EtherChannel setup, DHCP configuration, troubleshooting

Week 5: Access Control Lists (ACLs)

- Standard and extended ACLs

- Traffic filtering principles
Practice: ACL configuration, interface application, testing

Week 6: Routing & Static Routing

- Routing fundamentals
- Static routing
Practice: Route configuration, routing table verification

Week 7: OSPF

- OSPF fundamentals
- Neighbor relationships and metrics
Practice: OSPF configuration and troubleshooting

Week 8: NAT & Final Assessment

- NAT types (static, dynamic, PAT)
- Integrated network configuration
Assessment: Final practical lab and written exam