EU-CONEXUS
Micro-credentials in SmUCS Catalogue

Autumn 2025/2026

version 2.0

The table below presents all the courses that will be offered in a synchronous teaching mode in Autumn semester of academic year 2025/2026.

Sector	Thematic area	Micro-credential title	Starting month	ECTS	Application dates	Delivery mode	Host university
Coastal	Water management	Environmental monitoring and indicators	October 2025	1	01/09-02/10/2025	Online	AUA
	Ecosystem services	Marine ecosystem services and the impact of the Invasive Alien Species in the Mediterranean Sea	October 2025	1	01/09-02/10/2025	Online	AUA
	Business in coastal areas	Coastal Business Strategies and Legislation	November 2025	1	01/09-30/10/2025	Online	UTCB
	Smart ports	Cybersecurity for smart ports & shipping organizations	November 2025	1	01/09-30/10/2025	Online	KU
European	European funding instruments	Funding opportunities for young researchers: From idea to funding	October 2025	1	01/09-02/10/2025	Online	AUA
	Equitable and inclusive civic management	Engagement, Inclusion and Social Transfer	October 2025	1	01/09-02/10/2025	Online	UCV
	International standarisation	Durable, Sustainable, Resilient?	December 2025	1	01/09-23/11/2025	Online	UTCB
Smart	Industry 4.0	Advanced technologies for sustainable industries 4.0	October 2025	1	01/09-02/10/2025	Online	KU
	Digital marketing and communication	Introduction to film literacy and filmmaking	November 2025	1	01/09-30/10/2025	Online	UNIZD
	Digital humanities	System thinking and system dynamics modelling	November 2025	1	01/09-30/10/2025	Online	KU
Smart	Games and gamification	Games and gamification	November 2025	1	01/09-30/10/2025	Online	UNIZD

	Artificial intelligence in office work	Artificial Intelligence (in a Nutshell)	November 2025	1	01/09-30/10/2025	Online	UROS
Sustainability	**English for sustainability**	English Communication for Sustainable Development	December 2025	1	01/09-23/11/2025	Online	UCV
University	**Ethics/Bioethics**	Animal welfare in research labs	October 2025	1	01/09-02/10/2025	Online	AUA
	Personal leadership development and networking	Principles of Leadership, Teamwork and Communication	October 2025	1	01/09-02/10/2025	Online	AUA
	Environmental and science education	Environmental literature	November 2025	1	01/09-30/10/2025	Online	UNIZD
Urban	**Healthy cities**	Change your mind to change your health	October 2025	1	01/09-02/10/2025	Online	AUA
	Responsible consumption and production	Responsible Production and Logistics	December 2025	1	01/09-23/11/2025	Online	UROS

Apply here 😊

Below you will find **Micro-credential Cards** that include descriptions of each one of them together with the **timetables**.

They are arranged according to the date of starting the classes.

Animal welfare in research labs

(link to the website and registration platform available here)

Professor's name, university & email	Emmanouil Malandrakis, Agricultural University of Athens (Greece) emalandrak@aua.gr
Sector	University
Thematic area	Ethics/Bioethics
EQF level	Level 6 (Bachelor)
ISCED-F field	0899 Agriculture, forestry, fisheries and veterinary not elsewhere classified
ESCO skills & competences	K0920 – knowledge – health and welfare – welfare - welfare not further defined K0831 – knowledge – agriculture, forestry, fisheries and veterinary – fisheries - fisheries S6.9.0 – skills – handling and moving - handling animals – handling animals
Proposed dates of the classes	Wednesdays, 22/10, 29/10, 05/11, 12/11, 19/11, 09:00-11:00 (CET)
One hour for tutoring consultations	Tuesday, 18/11, 09:00-10:00 (CET)
Date of the exam/ final assessment	Wednesday, 19/11, 09:00-11:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	After the successful completion of the Program, the students will be able to demonstrate responsibility for implementing, monitoring, and maintaining the right conditions for Experimental Animals.
Description of the content (week by week)	Unit 1. Introduction - Stress and Welfare in Experimental Animals (2 hours) Unit 2. National and international legislation regarding the handling of laboratory animals (2 hours) Unit 3. Fundamental knowledge of laboratory animal care (2 hours) Unit 4. Statistical analysis and data processing of animal experimental data (2 hours) Unit 5. Written exams (2 hours)
Importance for society	This micro-credential is expected to yield substantial social, economic, and environmental benefits, promoting sustainable production practices and ensuring the welfare of the animals involved.

<table>
<tr><td>Skills (hard and soft skills)</td><td colspan="4">Hard skills:
Fish care in laboratory conditions,
Legislation about animal experimentation (European and national)
Statistical analysis for fish experimentation (power analysis, Analysis of variance etc.).
Soft skills:
Oral and written communication skills,
Critical thinking skills,
Problem-solving skills.</td></tr>
<tr><td>Sustainable Development Goals</td><td colspan="4">SDG4. Quality education
SDG9. Industry, innovation and infrastructure
SDG14. Life below water</td></tr>
<tr><td>Learning outcomes</td><td>Study methods</td><td>Assessment methods</td><td>Assignments. Requirements/format</td><td>Supervision and identity verification during assessment</td></tr>
<tr><td>Analyze fundamental concepts of fish stress physiology</td><td>Lecture, presentations, discussions</td><td>Written exams</td><td>Students will be required to discuss their ideas with colleagues.</td><td>Supervised online with identity verification.</td></tr>
<tr><td>Plan fish handling and experimentation in the lab</td><td>Lecture, presentations, discussions</td><td>Written exams</td><td>Students will be required to discuss their ideas with colleagues.</td><td>Supervised online with identity verification.</td></tr>
<tr><td>Bibliography</td><td colspan="4">Books:
The Welfare of Fish, 2020. Kristiansen S. Tore, Fernö Anders, Pavlidis A. Michalis, Hans van de Vis. Springer
Publications/articles:
M. Toni, A. Manciocco, E. Angiulli, E. Alleva, C. Cioni, S. Malavasi, (2019) Review: Assessing fish welfare in research and aquaculture, with a focus on European directives, Animal,13 (1):161-170
Paul J. Ashley (2007) Fish welfare: Current issues in aquaculture, Applied Animal Behaviour Science, 104, (3–4): 199-235
Websites:
https://www.efsa.europa.eu/en/topics/topic/fish-welfare
https://fishfromgreece.com/en/nea/approval-of-the-mediterranean-fish-welfare-as-national-guide/
https://www.fao.org/family-farming/detail/en/c/1068913/</td></tr>
</table>

Funding opportunities for young researchers: From idea to funding

(link to the website and registration platform available here)

Professor's name, university & email	Thomas Bartzanas, Agricultural University of Athens (Greece) t.bartzanas@aua.gr
Sector	European
Thematic area	European funding instruments
EQF level	Level 6 (Bachelor)
ISCED-F field	0031 Personal skills
ESCO skills & competences	S1.13 – skills – communication, collaboration and creativity - writing and composting S1.8 – skills – communication, collaboration and creativity - working with others K0811 – knowledge – agriculture, forestry, fisheries and veterinary – agriculture - crop and livestock production T2.2 – transversal skills and competences – thinking skills and competences - planning and organising
Proposed dates of the classes	Wednesdays, 22/10, 29/10, 05/11, 12/11, 19/11, 14:00-16:00 (CET)
One hour for tutoring consultations	Friday, 14/11, 14:00-15:00 (CET)
Date of the exam/ final assessment	Wednesday, 19/11, 14:00-16:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	Securing funding is essential for advancing high-quality research and innovation. However, many researchers face challenges in pursuing a research career due to limited funding opportunities and inadequate support. This course aims to empower young researchers by guiding them through each step of the funding process, from shaping their initial ideas to crafting and submitting a compelling proposal. It covers key areas such as identifying funding sources, writing effective proposals, developing realistic budgets, and maximizing funding potential. Participants will acquire practical skills to align their projects with funders' priorities, communicate their ideas clearly, and navigate common challenges in the application process.
Description of the content (week by week)	**Unit 1: Funding opportunities: Main aspects to be considered (2h)** - Overview of the research funding landscape - Identifying Suitable Funding Opportunities

	- Is your idea suitable for a specific call? **Unit 2: Research idea and strategy (2h)** - How to turn an idea into a research question and outline - Setting realistic goals, creating a work plan, and establishing a project timeline - Finding core partners-creating the proposal core team **Unit 3: How to write a winning proposal (2h)** - Initial concept note - Consortium building - Structuring the proposal (excellence part, how to draft work packages) - Techniques for emphasizing your research's innovation, expected outcomes, an real-world impacts **Unit 4: Budget and other considerations (2h)** - Preparing a Realistic Budget and Financial aspects - Communicate the budget to the consortium partners - Open data, gender issues, risks & contingency Plans, Ethics - Dissemination plan and exploitation of the results **Unit 5: Submitting your proposal (1h)** - Dealing with the submission platform - Organising your proposal in the submission platform - Information to be collected from the consortium partners **Unit 6: Exams (1h)**
Importance for society	The course is targeting to undergraduate students aiming to enter the research field with an interest in research funding and grantsmanship, after completing their studies. The course will assist them in enhancing their ability to secure external funding from European calls.
Skills (hard and soft skills)	Hard skills: Research proposal writing, Project management Soft skills: Communication, Networking, Critical thinking
Sustainable Development Goals	SDG4. Quality education SDG5. Gender quality SDG9. Industry, innovation and infrastructure SDG10. Reduced inequalities SDG17. Partnerships for the goals

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment

Align research ideas with funding priorities	Presentations, lectures, case studies	Project presentations presented by students	Group work (work in pairs, presentation in front of the colleagues)	Supervised with no identity verification
Communicate research effectively				
Bibliography	**Books:** - *Robert Trew, 2017. Get Funded: An Insider's Guide to Building An Academic Research Progra*m, ISBN:9781107068322, 1107068320, Cambridge Academic Press - *Ritsert, Jansen, 2013. Funding Your Career in Science: From Research Idea to Personal Grant*, ISBN:9781107435414, 1107435412, Cambridge Academic Press - *Gerand Crawley, 2015. Grant Writer's Handbook, The: How To Write A Research Proposal And Succeed*, ISBN:9781783267613, 1783267615, Imperial College Press **Publications/articles:** - Horizon Implementation Day: Finding opportunities & submitting a proposal in Horizon Europe (link) - How to write a Horizon Europe Proposal (link) - Proposal writing strategy: writing research grants to funding agencies (link) **Websites:** 1. https://erc.europa.eu/homepage 2. https://marie-sklodowska-curie-actions.ec.europa.eu/funding 3. https://research-and-innovation.ec.europa.eu/funding_en			

EUCONEXUS

Co-funded by the European Union

Engagement, Inclusion, and Social Transfer: Perspectives from the Field of Entrepreneurship

(link to the website and registration platform available here)

Professor's name, university & email	Daniel Ordiñana-Bellver, Catholic University of Valencia (Spain) daniel.ordinana@ucv.es
Sector	European
Thematic area	Equitable and inclusive civic management
EQF level	Level 6 (Bachelor)
ISCED-F field	0188 Inter-disciplinary programmes and qualifications involving education
ESCO skills & competences	T4.2 – transversal skills and competences - social and communication skills and competences – supporting others (advise others; show empathy) T6.3 – transversal skills and competences – life skills and competences – applying civic skills and competences (value rights and responsibilities, respect the diversity of cultural values and norms) K018 – knowledge - education - inter-disciplinary programmes and qualifications involving education) S1.9 – skills - communication, collaboration and creativity – solving problems
Proposed dates of the classes	Wednesdays, 22/10, 29/10, 05/11, 12/11, 19/11, 15:00-17:00 (CET)
One hour for tutoring consultations	Tuesday, 18/11, 13:00-14:00 (CET)
Date of the exam/ final assessment	Wednesday, 19/11, 15:00-17:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	"Engagement, Inclusion, and Social Transfer" is a micro-credential course designed for students from diverse backgrounds and faculties. The course aims to enhance students' understanding and skills in fostering inclusive environments and facilitating social integration. Participants will explore strategies to engage effectively with diverse communities and promote equitable social change. The final product of the course will be the creation of a company with social and civic purposes, in which the background of the different creative members will be its identity mark. Its presentation, in front of the rest of the classmates, will be the evaluation test that will determine whether or not the course has been passed.

Description of the content (week by week)	Some of the contents (such as those related to social and sustainable entrepreneurship) are taught at the same time as the rest given their continuous relationship and exemplification. Unit 1. Presentation, background, disability and risk of social exclusion (2h) Unit 2. Social and sustainable entrepreneurship from a specific field (2h) Unit 3. Designing a social and sustainable group enterprise: roles, objectives and preliminary analysis (2h) Unit 4. Critical analysis of an inclusive proposal: points of interest and suggestions for improvement (2h) Unit 5. Final presentations (2h)			
Importance for society	The European Union has made considerable efforts to encourage young students to become socially and sustainable entrepreneurs. In line with the guidelines of the 2030 Agenda, entrepreneurship from this perspective provides value and progress regardless of the field in which these predispositions are materialised. Young people should at least know that entrepreneurship is possible in any field, as long as they have the appropriate training to do so.			
Skills (hard and soft skills)	Hard skills: researching Soft skills: leadership, communication, creativity			
Sustainable Development Goals	SDG3. Good health and well-being SDG4. Quality education SDG8. Decent work and economic growth SDG9. Industry, innovation and infrastructure SDG10. Reduced inequalities SDG11. Sustainable cities and communities SDG12. Responsible consumption and production SDG16. Peace, justice and strong institutions SDG17. Partnerships for the goals			
Learning outcomes	**Study methods**	**Assessment methods**	**Assignments. Requirements/format**	**Supervision and identity verification during assessment**
Demonstrate theorical and practical knowledge about social, civic engagement and apply it in the entrepreneurship	Master class. Video. Discussion	Project	Individual/cooperative work	Supervised with no identity verification

Design a social and sustainable company	Interactive methodologies/ group methodologies (eg: Aronson's puzzle)	Group Work/ Project/ Final Presentation	Group work, Presentation in front of the colleagues	Supervised online with identity verification

Bibliography

Publications/articles:

1. van Lunenburg, M., Geuijen, K. & Meijer, A. How and Why Do Social and Sustainable Initiatives Scale? A Systematic Review of the Literature on Social Entrepreneurship and Grassroots Innovation. Voluntas 31, 1013–1024 (2020). https://doi.org/10.1007/s11266-020-00208-7
2. González-Serrano, M.H.; Añó Sanz, V.; González-García, R.J. Sustainable Sport Entrepreneurship and Innovation: A Bibliometric Analysis of This Emerging Field of Research. Sustainability 2020, 12, 5209. https://doi.org/10.3390/su12125209
3. Ordiñana-Bellver, D., Pérez-Campos, C., González-Serrano, MH., Martínez-Rico, G. Towards the development of future sustainable sports entrepreneurs: An asymmetric approach of the sports sciences sustainable entrepreneurial intentions, *Journal of Hospitality, Leisure, Sport & Tourism Education*, 31, https://doi.org/10.1016/j.jhlste.2022.100403.
4. Ordiñana-Bellver, D., Aguado-Berenguer, S., Pérez-Campos, C., González-Serrano, MH. Exploring nature-based physical activity as a catalyst for sustainable entrepreneurial intentions in sport science students, *Journal of Hospitality, Leisure, Sport & Tourism Education*, 34, 100482, https://doi.org/10.1016/j.jhlste.2024.100482.

Websites:

1. https://www.un.org/sustainabledevelopment/es/2015/09/la-asamblea-general-adopta-la-agenda-2030-para-el-desarrollo-sostenible/
2. https://joint-research-centre.ec.europa.eu/entrecomp-entrepreneurship-competence-framework_en
3. https://www.ucv.es/campus-capacitas

EU CONEXUS

Co-funded by the European Union

Advanced technologies for sustainable industries 4.0

(link to the website and registration platform available here)

Professor's name, university & email	Giovanni Di Noto, Klaipeda University (Lithuania) giovanni.di-noto@ku.lt
Sector	Smart
Thematic area	Industry 4.0
EQF level	Level 6 (Bachelor)
ISCED-F field	0688 - Inter-disciplinary programs and qualifications involving information and Communication Technologies
ESCO skills & competences	T1.2 – transversal skills and competences – core skills and competences – working with numbers and measures – carry out calculations - apply statistical analysis techniques S4.1.0 – skills – management skills – developing objectives and strategies - develop strategy to solve problems K0688 - knowledge – information and communication technologies (ICTS) - inter-disciplinary programmes and qualifications involving information and communication technologies (ICTS)
-Proposed dates of the classes	Wednesdays & Thursdays, 22/10, 23/10, 29/10, 30/10, 05/11, 06/11, 16:00-18:00 (CET)
One hour for tutoring consultation	Thursday, 06/11, 16:00-17:00 (CET)
Date of the exam/ final assessment	Thursday, 06/11, 17:00-18:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 11 h Asynchronous hours & self-directed learning: 14 h
General description	This course elucidates themes related to industry 4.0. It explores production processes from a sustainability maximization perspective via smarter primary, secondary & tertiary sectors. It dives into topics such as SDG (Sustainable Development Goals), key Sustainability drivers, 3P (Planet, People, Profit), a.k.a. triple bottom-line, accounting, ESG regulations & mandatory scope 1,2,3 reporting, production assets usage & processes optimization, and related technologies (IoT, AI/ML, DLT, Quantum Computing use cases & best practices).
Description of the content (week by week)	**Lecture 1: Introduction to Smart Industry 4.0 & 3P accounting (2 hours)** • Class introductions, MC introduction, goals, structure, exam structure

- Industry 4.0 overview, history (from 1.0 to 4.0) background & context
- Key concepts, technologies, models, glocalization vs. globalization
- Smart Industry 4.0 & ESG drivers of Sustainability
- SFRD, CSRD, CSDDD, CBAM, TCFD, SASB
- 3P (Planet, People, Profit) accounting

Self-Learning (1.5 hours): research & read about history & impact of industrial & agricultural revolutions, case studies on successful integrations of Industry 4.0, Industry 4.0 implementation methodologies, ESG reporting legislations & scopes, 3P accounting systems

Lecture 2: Smart Primary Sector (2 hours)

- Permaculture, vertical farming & conventional agriculture landscapes
- IoT, AI/ML, and other technologies in agriculture, fisheries & forestry
- Conservation, regeneration & socially driven sustainability models
- Sustainable practices overview in Mining

Self-Learning (1.5 hours) research & read about precision agriculture, vertical farming, and smart mining, emerging technologies in primary sectors.

Lecture 3: Smart Secondary Sector (2 hours)

- Circular vs. Linear economics, impact on product design & production
- Energy efficiency, waste reduction, resource & logistics optimization
- IoT, AI/ML, robotics & 3/4D printing & other smart technologies
- Predictive maintenance & asset lifecycle management
- 3/4/5PL business models & best practices

Self-Learning (1.5 hours) research & read about manufacturing 4.0 real-world case implementations, 3/4/5PL model use cases for key sectors

Lecture 4: Smart Tertiary Sector (2 hours)

- Digital twins, AI/ML, IoT in service sectors such as healthcare, finance, etc.
- Case studies on sustainable practices in service industries

Self-Learning (1.5 hours) case studies on smart services & technology trends

Lecture 5: Anticipating challenges with advanced techs (2 hours)

- Challenges with AI/ML, DLT, IoT/E, Quantum & Bio Computing

Self-Learning & exam preparation (9 hours) general revision & preparation for knowledge assessment exam, individual project preparation & submission.

Importance for society	This inter-disciplinary course educates and prepares students to meaningfully contribute to society's most pressing challenges via the application of advanced technologies, across primary, secondary & tertiary industries & a variety of sectors. The course promotes innovation, sustainable economic models, environmental stewardship, social resilience, all of which aligned with critical SDGs for the future.			
Skills (hard and soft skills)	**Hard skills:** • Real-world & synthetic data analysis, scrutiny & interpretation • Lifecycle & Environmental Impact Assessment in ESG scope 1,2,3 contexts **Soft skills:** • Critical Thinking & Problem Solving • Collaboration & Communication			
Sustainable Development Goals	SDG9. Industry, innovation and infrastructure SDG11. Sustainable cities and communities SDG12. Responsible consumption and production			
Learning outcomes	**Study methods**	**Assessment methods**	**Assignments. Requirements/format**	**Supervision and identity verification during assessment**
Define industry 4.0 strategies aimed to enhance positive sustainability outcomes.	Lectures, Group discussions, Individual research, Individual project work.	Online quiz Individual project	Submission for individual projects in the form of a recorded video in Pecha-Kucha format (20 slides, 20 seconds per slide) on a relevant topic, such as analysis real-world industry 4.0 case analysis, or solution to sustainability challenge via industry 4.0 application Presentations scored on 1) Use case or proposed solution's sustainability strengths, 2) Visual communication skills, 3) overall clarity & articulation	electronically unsupervised online (Moodle), time-limited with login-based identity verification. Individual project: unsupervised, with identity verification (live recorded presentation)
Apply the acquired knowledge to fulfill ESG reporting.	Lectures, Individual research.	Online Quiz	30-questions time-limited online Quiz	electronically unsupervised online (Moodle), time-limited with login-based identity verification.
Bibliography	**Books:**			

1. Walker J, Pekmezovic A, Walker G, 2019 "*Sustainable Development Goals: Harnessing Business to Achieve the SDGs through Finance, Technology and Law Reform*"
2. Gilchrist A, 2016 "*Industry 4.0: The Industrial Internet of Things*"
3. Asthana R, 2015 "*Green and Sustainable Manufacturing of Advanced Material*"

Publications/articles:

1. Grieves M, Vickers J, 2016 " *Origins of the Digital Twin Concept*" https://www.researchgate.net/publication/307509727_Origins_of_the_Digital_Twin_Concept
2. Kirchherr J, Reike D, Hekkert M, 2017 "*Conceptualizing the circular economy: An analysis of 114 definitions*" https://www.sciencedirect.com/science/article/pii/S0921344917302835
3. Mir SM, Naikoo NB, Kanth RH, Bahar FA, Bhat MA, Nazir A, Mahdi AS, Amin Z, Singh L, Raja W, Saad AA, Bhat TA, Palmo T, Ahngar TA, 2022 "*Vertical Farming: The future of agriculture A Review*" https://www.thepharmajournal.com/archives/2022/vol11issue2S/PartP/S-11-2-22-988.pdf

Websites:

1. United Nations Sustainable Development Goals https://sdgs.un.org/goals
2. World Economic Forum (WEF) - Industry 4.0 https://www.weforum.org/focus/fourth-industrial-revolution/
3. International Institute for Sustainable Development (IISD) https://www.iisd.org/
4. Sustainability Accounting Standards Board (SASB) https://www.sasb.org/
5. Ellen MacArthur Foundation - Circular Economy https://www.ellenmacarthurfoundation.org/

EU CONEXUS

Co-funded by the European Union

Environmental monitoring and indicators

(link to the website and registration platform available here)

Professor's name, university & email	Sofia Mavrikou, Agricultural University of Athens (Greece) sophie_mav@aua.gr Assistant Professor: Chrysi Papadimitriou, cpapadim@aua.gr
Sector	Coastal
Thematic area	Water management
EQF level	Level 6 (Bachelor)
ISCED-F field	0521 Environmental sciences
ESCO skills & competences	S1.4.2 - presenting research or technical information S2.2.1 - preparing financial documents, records, reports, or budgets T1.3 - working with digital devices and applications
Proposed dates of the classes	Thursdays, 06/11, 13/11, 20/11, 27/11, 04/12, 9:00-11:00 (CET)
One hour for tutoring consultations	Friday, 28/11, 09:00-10:00 (CET)
Date of the exam/ final assessment	Thursday, 04/12, 09:00-11:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	Training in the science of environmental monitoring and methods for identifying relevant indicators, including but not limited to the acquisition of environmental data over time to observe or detect changes in key variables. Such monitoring typically focuses on environmental management objectives and, by extension, on assessing potential harmful effects of human impacts, biodiversity and changes in ecological quality over time.
Description of the content (week by week)	Unit 1. The Water Framework Directive (1 hour) Unit 2. Standard classification of rivers (0,5 hour) Unit 3. Criteria for the selection of reference areas and definition of reference conditions (0,5 hour) Unit 4. Introduction to environmental indicators (0,5 hour) Unit 5. Characteristics for the development of indicators (0,5 hour) Unit 6. Main types & selection of indicators (0,5 hour)

	Unit 7. Indicators of the aquatic environment (0,5 hour) Unit 8. Sampling methods and design (1 hour) Unit 9. Data analysis (1 hour) Unit 10. Species-based indicators (0,5 hour) Unit 11. Indicators for river ecological status studies (0,5 hour) Unit 12. Organisms used (0,5 hour) Unit 13. Necessities, periodicity and regulations (0,5 hour) Unit 14. Exam (2 hour)
Importance for society	This micro-credential will have a significant social, economic and environmental impact and will contribute to achieving an appropriate type of environmental monitoring and further analysis to draw statistically sound conclusions. The proposed programme is fully in line with the 17 UN Sustainable Development Goals as it covers areas that include primarily social (environmental awareness, provision of education, remote and multilingual training with practical application) and environmental sustainability (maintaining ecological quality, biodiversity conservation, protection of water resources) and secondarily economic sustainability (training individuals in modern environmental monitoring methods).
Skills (hard and soft skills)	Hard skills: Promoting environmental awareness, Develop skills in environmental tools for assessing ecological quality Soft skills: Critical thinking skills, Problem-solving skills.
Sustainable Development Goals	SDG3. Good health and well-being SDG4. Quality education SDG6. Clean water and sanitation SDG10. Reduced inequalities SDG11. Sustainable cities and communities SDG12. Responsible consumption and production SDG13. Climate action SDG14. Life below water SDG15. Life on land SDG17. Partnerships for the goals

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Use indicators for the assessment of environmental and ecological quality	Lecture, presentations, discussions	Exams	Presentation in front of the colleagues	Supervised online or onsite with identity verification

Design and implement an integrated environmental and ecological quality monitoring system	Lecture, presentations, discussions	Exams	Presentation in front of the colleagues	Supervised online or onsite with identity verification

Bibliography

Book:

Günther, O., Radermacher, F.J., & Riekert, W. (1995). *Environmental monitoring: Models, methods and systems.*

Publications/articles:

1. Anuj, K., Hiesik, K., and Gerhard, P.H. *Environmental Monitoring Systems: A Review*, 2013, IEEE SENSORS JOURNAL,13, 4.
2. Šećerov, I. , Dolinaj, D. , Pavić, D. , Milošević, D. , Savić, S. , Popov, S. and Živanov, Ž. (2019) *Environmental Monitoring Systems: Review and Future Development. Wireless Engineering and Technology*, 10, 1-18. doi: 10.4236/wet.2019.101001.
3. Puig, M., Darbra, R.M., *Innovations and insights in environmental monitoring and assessment in port areas*, 2024, Current Opinion in Environmental Sustainability, 70, 101472, doi:10.1016/j.cosust.2024.101472.

Principles of Leadership, Teamwork and Communication

(link to the website and registration platform available here)

Professor's name, university & email	Aikaterini Kandyliari, Agricultural University of Athens (Greece) kkandyliari@aua.gr
Sector	University
Thematic area	Personal leadership development and networking
EQF level	Level 6 (Bachelor)
ISCED-F field	0031 Personal skills
ESCO skills & competences	S1.0.0 – skills – communication, collaboration and creativity - communication, collaboration and creativity - communication, collaboration and creativity S1.4.0 – skills – communication, collaboration and creativity – presenting information - presenting information S1.8.1 – skills – communication, collaboration and creativity – working with others - working in teams S4.5 – skills – management skills - leading and motivating
Proposed dates of the classes	Tuesdays, 11/11, 18/11, 25/11, 02/12, 09/12, 12:00-14:00 (CET)
One hour for tutoring consultations	Tuesday, 02/12, 14:00-15:00 (CET)
Date of the exam/ final assessment	Tuesday, 09/12, 12:00-14:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	This micro-credential focuses on essential skills for effective collaboration and leadership in diverse environments. Over the past few years, the topic has evolved to incorporate remote teamwork and inclusive communication strategies, reflecting the changing dynamics of the modern workplace. This is a trending topic due to the increasing emphasis on soft skills in job markets and the rise of remote work, making strong leadership and teamwork more vital than ever. Gaining knowledge in this area is crucial for students, as it prepares them to navigate complex group dynamics and enhances their employability in a competitive landscape.
Description of the content (week by week)	Unit 1. Introduction to teamwork (3 hours) Unit 2. Roles in a team (2 hours) Unit 3. Foundations of leadership (3 hours) Unit 4. Communication skills (2 hours)

Importance for society	This topic fosters collaboration, innovation, and effective problem-solving across various sectors. It raises awareness about the importance of inclusive leadership and clear communication, which are essential for building diverse teams that can address complex challenges. Additionally, it highlights the need for emotional intelligence and adaptability in leaders, promoting a culture of respect and understanding. By focusing on these skills, society can cultivate stronger, more resilient communities and organizations that thrive in an increasingly interconnected world.
Skills (hard and soft skills)	Hard skills: Project Management and Presentation Skills Soft skills: Collaboration and Adaptability
Sustainable Development Goals	SDG4. Quality education SDG5. Gender quality SDG8. Decent work and economic growth SDG10. Reduced inequalities SDG17. Partnerships for the goals

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Identify the characteristics of effective teams	Presentation, lecture, case studies and group work	Presentation prepared by students	Group and individual work, work in pairs and presentation in front of the colleagues	Supervised with no identity verification
Discuss the contribution of different skills to team success	Presentation, lecture, discussions, debates and group work	Discussions	Group and individual work, work in pairs and presentation in front of the colleagues	Supervised with no identity verification

Bibliography

Books/Publications/Articles:

1. Beebe, S. A., & Masterson, J. T. (2015). Communicating in small groups: Principles and practices (11th Ed.). Boston, MA: Pearson.
2. Pavitt, C. , & Curtis, E. (2001). Small group discussion: A theoretical approach (3rd ed.).
3. Poole, M.S., & Hollingshead, A.B. (2004). Theories of small groups: Interdisciplinary perspectives.
4. The Journal of Leadership Studies

Websites:

1. Harvard Business Review (https://hbr.org/)
2. TED Talks (https://www.ted.com/)

EUCONEXUS

Co-funded by the European Union

Healthy cities: Change your mind to change your health

(link to the website and registration platform available here)

Professor's name, university & email	Aimilia Papakonstantinou, Agricultural University of Athens (Greece) emiliap@aua.gr
Sector	Urban
Thematic area	Healthy cities
EQF level	Level 6 (Bachelor)
ISCED-F field	0900 Health and welfare
ESCO skills & competences	K099 – knowledge – health and welfare - health and welfare not elsewhere classified S1 – skills - communication collaboration and creativity S2 – skills - information skills T2 – transversal skills and competences - thinking skills and competences T6 – transversal skills and competences - life skills and competences
Proposed dates of the classes	Wednesdays, 12/11, 19/11, 26/11, 03/12, 10/12, 10:00-12:00 (CET)
One hour for tutoring consultations	Wednesday, 03/12, 12:00-13:00 (CET)
Date of the exam/ final assessment	Wednesday, 10/12, 10:00-12:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	By 2050, the global population will reach 10 billion, creating significant challenges for food systems amidst rising EU elderly populations, declining birth rates, and increasing life expectancy. Trends toward healthier, sustainable, and natural diets are growing, while 30% of food is wasted annually, and food production consumes 70% of global freshwater. These pressing issues make food systems innovation critical, balancing consumer demands with environmental protection and climate change adaptation. Students need this knowledge to lead in sustainable food innovation and address global challenges effectively.

Description of the content (week by week)	Unit 1. Introduction to sustainable nutrition and health (2 hours) Unit 2. New technologies for novel food production and sustainable nutrition following the farm to fork guidelines – group work (2 hours) Unit 3. Dietary guidelines and food labelling, obstacles and opportunities (2 hours) Unit 4. Translating sustainable nutrition to everyday practices – group work (2 hours) Unit 5. Climate change and health: thought, solution, a view to the future (2 hours)
Importance for society	Sustainable nutrition and health literacy
Skills (hard and soft skills)	Hard skills: Knowledge of functional ingredients and foods and understanding dietary guidelines and food labeling Soft skills: Collaboration and teamwork and critical thinking and problem-solving
Sustainable Development Goals	SDG2. Zero hunger SDG3. Good health and well-being SDG8. Decent work and economic growth SDG9. Industry, innovation and infrastructure SDG10. Reduced inequalities SDG11. Sustainable cities and communities SDG12. Responsible consumption and production SDG13. Climate action SDG17. Partnerships for the goals

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Explain the scientific basis and interdisciplinary approaches used in the study of Sustainable Food Systems	Lectures, small group assignments and practical exercises, individual study	Written exam which includes multiple choice questions	Self-evaluation/reflection report from each individual and evaluation of team members for their contribution to the group work Requirements: work in small groups, presentation in front of collegues, essay	Unsupervised with no identity verification
Demonstrate practical skills in the food system based on sustainability practices	Lectures, small group assignments and practical exercises, individual study	Written exam which includes multiple choice questions	Self-evaluation/reflection report from each individual and evaluation of team members for their contribution to the group work	Unsupervised with no identity verification

			Requirements: work in small groups, presentation in front of collegues, essay	

Bibliography

Books:

1. *Sustainable Healthy Diets: Guiding Principles* by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). This document provides a holistic approach to diets, considering nutrition recommendations, environmental impacts, and socio-economic contexts.
2. *Sustainable Diets: Linking Nutrition and Food Systems* edited by Barbara Burlingame and Sandro Dernini. It offers a transdisciplinary perspective, integrating health, agriculture, and environmental issues to comprehensively explore sustainable diets

Publications/articles:

1. *Sustainable Healthy Diets: Guiding Principles* by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). This document provides a holistic approach to diets, considering nutrition recommendations, environmental impacts, and socio-economic contexts.
2. *The Role of Healthy Diets in Environmentally Sustainable Food Systems* by the International Confederation of Dietetic Associations (ICDA). This paper reviews how transitions to healthier diets can advance environmental targets and contribute to sustainable food systems
3. *Sustainable Nutrition and Human Health as Part of Sustainable Development* by Magdalena Gibas-Dorna and Wioletta Zukiewicz-Sobczak. This article discusses the concept of sustainable nutrition, focusing on health-promoting diets that are culturally acceptable, accessible, and environmentally friendly.

Websites:

1. The Nutrition Source – Sustainability: Hosted by the Harvard T.H. Chan School of Public Health, this resource offers insights into the relationship between diet, health, and environmental sustainability. https://nutritionsource.hsph.harvard.edu/sustainability/
2. International Panel of Experts on Sustainable Food Systems (IPES-Food): This organization provides reports and publications on sustainable food systems, addressing the political economy and environmental impacts of food production and consumption. https://ipes-food.org/
3. Food + Planet: Cultivating a Sustainability Revolution. This platform offers resources and insights aimed at empowering health professionals to advocate for sustainable food systems, providing tools and information to integrate sustainability into nutrition practice. https://foodandplanet.org/

Marine ecosystem services and the impact of the Invasive Alien Species in the Mediterranean Sea

(link to the website and registration platform available here)

Professor's name, university & email	Stefanos Kalogirou, Agricultural University of Athens (Greece) stefanos.kalogirou@aua.gr
Sector	Coastal
Thematic area	Ecosystem services
EQF level	Level 6 (Bachelor)
ISCED-F field	0521 Environmental sciences
ESCO skills & competences	K0521 - knowledge – natural sciences, mathematics and statistics – environment - environmental sciences K0522 - knowledge – natural sciences, mathematics and statistics – environment - natural environments and wildlife T6.2 – transversal skills and competences – life skills and competences - applying environmental skills and competencies
Proposed dates of the classes	Fridays, 14/11, 21/11, 28/11, 05/12, 12/12, 11:00-13:00 (CET)
One hour for tutoring consultations	Friday, 05/12, 13:00-14:00 (CET)
Date of the exam/ final assessment	Friday, 12/12, 11:00-13:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	This micro-credential offers an in-depth exploration of marine ecosystem services and the impacts of invasive species, emphasizing their ecological importance. The topic has evolved with a growing understanding of ecological interactions and the critical services marine ecosystems provide, driven by climate change, biodiversity loss, and public awareness. Understanding these concepts equips students with the skills to contribute to sustainable management practices and policies, opening diverse career opportunities. The course fosters critical thinking and problem-solving abilities, preparing students to engage with global conservation efforts.
Description of the content (week by week)	Unit 1. Introduction to marine ecosystems and their functioning - ecosystem services (2 hours) Unit 2. Marine ecosystem services and their functioning - Ecology to study Invasive Alien Species (2 hours)

	Unit 3. In-depth study of invasive alien species and their impact on marine ecosystem services in the Mediterranean Sea. Case studies of invasive species (2 hours) Unit 4. Case studies of invasive species (2 hours) Unit 5. Exam session (2 hours)
Importance for society	The significance for society lies in understanding the essential services marine ecosystems provide that invasive species can disrupt, leading to significant ecological and socioeconomic changes. This topic highlights the need for proactive conservation efforts, informed policy-making, and community engagement to protect marine environments. Increased attention to these issues fosters a sense of responsibility and encourages actions toward sustainability and resilience.
Skills (hard and soft skills)	Hard skills: • Knowledge of basic concepts related to marine ecosystems and ecosystem services • Knowledge of basic concepts related to marine invasive species • Identification of key invasive species • Impacts of key invasive species Soft skills: • Critical thinking: Students will enhance their ability to approach problems from multiple perspectives and make informed decisions. • Collaboration: Students will improve their skills in working effectively with others, including interdisciplinary teams and stakeholders.
Sustainable Development Goals	SDG13. Climate action SDG14. Life below water SDG17. Partnerships for the goals

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements /format	Supervision and identity verification during assessment
Explain the processes and the ecosystem services of Mediterranean marine ecosystems.	Presentations, Group work, Exams	Presentation (50%) Written Exams (50%)	Students will be required to discuss their ideas with colleagues	Supervised online with identity verification
Outline the concepts related to Invasive Alien Species (IAS) and recognize the most common ones;	Presentations, Group work, Exams	Presentation (50%) Written Exams (50%)	Students will be required to discuss their ideas with colleagues	Supervised online with identity verification

Discuss the impact of the alien invasive species on native endemic organisms, the ecosystem, and ecosystem services.				
Bibliography	**Books:** Fifty Years of Invasion Ecology: The Legacy of Charles Elton, 2010. David M. Richardson, Blackwell Publishing Ltd **Publications/articles:** 1. Katsanevakis S., Wallentinus I., Zenetos A., Leppäkoski E., Çinar M. E., Oztürk B., Grabowski M., Golani D. and Cardoso A. C. (2014). *Impacts of invasive alien marine species on ecosystem services and biodiversity: a pan-European.* Review: Aquatic Invasions Volume 9, Issue 4: 391–423 2. Liquete, C., Piroddi, C., Macías, D. et al. (2016). *Ecosystem services sustainability in the Mediterranean Sea: assessment of status and trends using multiple modelling approaches*. Sci Rep 6, 34162 (2016). 3. Basconi, L., Rova, S., Stocco, A., & Pranovi, F. (2023). Ecosystem services for supporting coastal and marine resources management, an example from the Adriatic sea (Central Mediterranean sea). *Ocean & Coastal Management*, *235*, 106486. **Websites:** 1. https://easin.jrc.ec.europa.eu/easin			

Coastal Business Strategies and Legislation

(link to the website and registration platform available here)

Professor's name, university & email	Andreea Condurache, Technical University of Civil Engineering in Bucharest (Romania) andreea.condurache@utcb.ro
Sector	Coastal
Thematic area	Business in coastal areas
EQF level	Level 6 (Bachelor)
ISCED-F field	0488 Interdisciplinary programs and qualifications involving business, administration and law
ESCO skills & competences	K040 – knowledge - business, administration and law – business, administration and law not further defined K048 – knowledge – business, administration and law – interdisciplinary programs and qualifications involving business, administration and law
Proposed dates of the classes	Wednesdays, 19/11, 26/11, 03/12, 10/12, 17/12, 16:00-18:00 (CET)
One hour for tutoring consultations	Wednesday, 10/12, 18:00-19:00 (CET)
Date of the exam/ final assessment	Wednesday, 17/12, 16:00-18:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	A course that will introduce studies in an interdisciplinary field of business, administration and law in coastal areas. The purpose of the course is the acquisition of skills in: - identifying business opportunities in coastal areas and implementing business adaptation plans to the economic and social environment adapted to the development strategies promoted at the EU level.
Description of the content (week by week)	Unit 1. Business opportunity in coastal areas (2 hours) Unit 2. International Commerce in coastal areas (2 hours) Unit 3. Economic, social and territorial cohesion (2 hours) Unit 4. Human resources in business (2 hours) Unit 5. Business strategy (2 hours)

Importance for society	Businesses are the backbone of economic growth, driving various economic activities that sustain national and global economies. Businesses in coastal areas can contribute to the prosperity of a local nation by producing and selling goods and services, leading to increased income, employment, and improved living standards.			
Skills (hard and soft skills)	Hard skills: knowledge and abilities needed to do business in coastal areas Soft skills: Critical and creative thinking, collaboration			
Sustainable Development Goals	SDG1. No poverty SDG2. Zero hunger SDG3. Good health and well-being SDG4. Quality education SDG8. Decent work and economic growth SDG9. Industry, innovation and infrastructure SDG11. Sustainable cities and communities SDG12. Responsible consumption and production SDG14. Life below water SDG17. Partnerships for the goals			
Learning outcomes	**Study methods**	**Assessment methods**	**Assignments. Requirements/format**	**Supervision and identity verification during assessment**
Analyze coastal business contexts and develop sustainable business strategies to safeguard cultural heritage	Lecture, discussions, group work	Quiz	Group work	Lecture, discussions, group work
Identify business opportunities in coastal areas	Lecture, discussions, individual work	Written assessment	Individual work	Lecture, discussions, individual work
Bibliography	**Books:** 1. Integrated Coastal Management, Martin Le Tissier, Dik Roth, Maarten Bavinck, Leontine Visser **Publications/articles:** 1. Opportunities for transforming coastal and marine tourism, coordinating lead author Eliza Northrop			

	2. Coastal Development: Resilience, Restoration and Infrastructure Requirements **Websites:** 1. https://medium.com 2. https://www.coastmagazine.co.uk 3. https://www.coastalbusiness.com

EUCONEXUS

Co-funded by the European Union

Cybersecurity for Smart Ports & Maritime Industries

(link to the website and registration platform available here)

Professor's name, university & email	Giovanni Di Noto, Klaipeda University (Lithuania) giovanni.di-noto@ku.lt
Sector	Coastal
Thematic area	Smart Ports
EQF level	Level 6 (Bachelor)
ISCED-F field	0688 - Inter-disciplinary programs and qualifications involving information and Communication Technologies
ESCO skills & competences	T4.5 – transversal skills and competences – social and communication skills and competences - following ethical code of conduct S5.2.2 - skills – working with computers – setting up and protecting computer systems – protecting ICT devices – implement ICT security policies K1031 - knowledge – services – security services – military and defence – cyber security
-Proposed dates of the classes	Wednesdays & Thursdays, 19/11, 20/11, 26/11, 27/11, 03/12, 04/12, 16:00-18:00 (CET)
One hour for tutoring consultation	Thursday, 04/12, 16:00-17:00 CET
Date of the exam/ final assessment	Thursday, 04/12, 17:00-18:00 CET
Synchronous & asynchronous hours	Synchronous contact hours: 11 h Asynchronous hours & self-directed learning: 14 h
General description	This course builds the skills and knowledge required to enhance ports' smartness with tools and methods tailored to the unique cybersecurity challenges impacting ports and maritime industries. It explores cybersecurity themes across all informational layers from their outer dimensions (CTI ecosystems, cloud infrastructure, public networks, on-ship & cargo security, port connected operational systems & IoT fleet) to inner ones (authentication, identity management, application, data, AI/ML security, future challenges with quantum computing) considering both threat & prevention/mitigation strategies and how to implement them.
Description of the content (week by week)	**Lecture 1: Introduction to cybersecurity discipline (2 hours)** • Class introductions, MC introduction, goals, structure, exam structure • Ethical vs non-ethical hacking, red vs blue, black/white box methods

- Cybersecurity landscape, historical background & post-2021 context
- GRC (Governance, Risk & Compliance), Learning organizations
- ISO-31000, ISO-27001 & tooling overview

Self-Learning (1.5 hours): research & read about cybersecurity use cases in port & maritime industries, root causes, impact, mitigation, prevention, GRC frameworks such as ISO-27001, ISO-31000, cybersecurity legislation including port specific.

Lecture 2: Cybersecurity outer, network & endpoint layers (2 hours)

- CTI networks, protocols, ecosystems (STIX/TAXII, CVE, OWASP, NIST), cloud infrastructure LEO satellite networks, mono vs multi-vendor supply chain, CDN (Content Delivery Networks), technical & legal cyber-hunting
- Physical security, DDoS, network gateways, firewalls, DNS, metal/virtual server, SOE, encryption, certificates, DRM, drills, endpoint IoT, stolen assets
- Port & maritime assets exposure, jamming devices, trojan cargoes, other network layer mitigative strategies

Self-Learning (1.5 hours) research & use outer layers cybersecurity tools, study attack techniques over networks, servers & endpoints, and how to prevent them.

Lecture 3: Cybersecurity authentication & architectural layers (2 hours)

- Identity management, MFA users & IoT, Network level privileges & permissions, information security policies, segregation of duties, 0-Trust, audit logs, reconnaissance techniques, sniffing, social engineering, threat avoidance tools
- Software quality assurance, SBOM, findings evaluation, ranking & prioritization
- Security & Privacy By-Design software architecture & development principles

Self-Learning (1.5 hours) research & read about SOX principles, automated testing tools, secure-by-design software architecture

Lecture 4: Cybersecurity inner app & data layers (2 hours)

- Common app threat types, classification, ranking, app configuration risks, app threats & related mitigation/prevention (code reviews, 3P libraries audits, featuritis neutralization, vulnerability & penetration testing)
- Data classification, SQL injection types, AI/ML threats & other data-related attacks, data leakages & their mitigation/prevention such as with DLT
- Challenges with AI/ML, DLT, IoT/E, & Quantum Computing (data encryption)

Self-Learning (5.5 hours) practical cyber war games (red & blue teams)

Lecture 5: Cybersecurity change management & implementation (2 hours)

- Change management & cybersecurity implementation strategies, green fields/environments vs established organization
- Cybersecurity inspections/assessments, forensics/reports
- Cybersecurity radar, cybersecurity awareness and training

Self-Learning & exam preparation (5 hours) general revision & preparation for knowledge assessment exam, individual project preparation & submission.

Importance for society	This course educates and prepares students to become professionals that will advance cybersecure digitalization for sustainable smart ports and maritime industries. The maritime industry is responsible for the transportation of over 90% of global trade. It faces an increasing risk surface and has become a de facto target for cyber criminals.
Skills (hard and soft skills)	**Hard skills:** • Advanced cybersecurity ethical hacking, threat identification & classification • Preventative & mitigative techniques, incident response **Soft skills:** • Ethics, Good Governance & Risk Management • Planning, Critical Thinking, Communication & Change Management
Sustainable Development Goals	SDG9. Industry, innovation and infrastructure SDG11. Sustainable cities and communities

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Setup cyber security strategies for port & maritime operations.	Lectures, Group discussions, Individual research, Individual project work.	Online quiz Individual project	Submission for individual projects in the form of a recorded video in Pecha-Kucha format (20 slides, 20 seconds per slide) on a relevant topic, such as real-world port-related cyber-attack case analysis, or cybersecurity solution. Presentations scored on 1) Use case or proposed solution's cybersecurity strengths, 2) Visual communication skills, 3) overall clarity & articulation	electronically unsupervised online (Moodle), time-limited with login-based identity verification. Individual project: unsupervised, with identity verification (live recorded presentation)
Manage cyber threats & incidents.	Lectures, Individual research.	Online Quiz	30-questions time-limited online Quiz	electronically unsupervised online (Moodle), time-limited with login-based identity verification.

Bibliography	**Books:** 1. Rashid, Chivers, Danezis, Lupu, Martin,2019, "*Cyber Security Body of Knowledge*" 2. Mark E. Goldstein, 2019 "*Port Cybersecurity: Securing Critical Infrastructure*" 3. Todd E, Williamson P, 2020, "*Cybersecurity in the Maritime Domain*"

Introduction to film literacy and filmmaking

(link to the website and registration platform available here)

Professor's name, university & email	Mirko Duić, University of Zadar (Croatia) miduic@unizd.hr
Sector	Smart
Thematic area	Digital marketing and communication
EQF level	Level 6 (Bachelor)
ISCED-F field	0211 Audio-visual techniques and media production
ESCO skills & competences	K0211 – Knowledge – arts and humanities – arts - audio-visual techniques and media production (film and video production) S1.12.0 – Skills – Communication, collaboration and creativity - creating artistic, visual or instructive materials T4.1 – Transversal skills and competences – social and communication skills and competences - communicating (address an audience; promote ideas, products, services)
Proposed dates of the classes	Fridays, 21/11, 28/11, 05/12, 12/12, 19/12, 23/01, 09:00-11:00 (CET)
One hour for tutoring consulations	Friday, 09/01, 09:00-10:00 (CET)
Date of the exam/ final assessment	Friday, 23/01, 09:00-11:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 12 h Asynchronous hours & self-directed learning: 13 h
General description	Nowadays, private and public communication and digital marketing have largely been based on the creation, sharing and viewing of films. This micro-credential course, will support students in learning about elements of film literacy. It will support them in learning about basic principles, methods and technologies needed for the creation of films. When the film authors are well acquainted with the important film literacy concepts, the more creative and effective they could be in developing, using and combining those concepts to create films with a high educational level, convincing and entertaining films. The goal of this course is to support the students to acquire the foundational prerequisites necessary for making different types of films that could bring benefits to particular viewers and the whole society.

Description of the content (week by week)	Unit 1. Introduction and film aesthetics (1 hour); Film editing 1 (1 hour) Unit 2. Diversity and characteristics of film types (0.5 hour); Film editing 2 (1.5 hour) Unit 3. Finding and shaping ideas for film creation (0.5 hour); Film editing 3 (1.5 hour) Unit 4. Film shooting, camera elements & lighting (1 hour); Film editing 4 (1 hour) Unit 5. Filmmaking tools and platforms (1 hour); Exam (1 hour)
Importance for society	The importance of all forms of communication is invaluable for the good functioning of society. Whether it is oral, written, audio-visual or some other type of communication. Nowadays, communication through different types of films - documentary, feature, animated, or films that combine these genres - is present in different ways in everyday life. We can single out just one of many examples - film tutorials on the use of computer programs, which are available on video portals like YouTube. These film tutorials are watched by millions of people around the world on a daily basis. They are a specific type of educational films that are very useful from a societal point of view because they enable people and many societies around the world to expand their knowledge, skills and competencies related to the topics that interest them.
Skills (hard and soft skills)	Hard skills: Basic film shooting & editing skills Soft skills: Problem solving & Creativity
Sustainable Development Goals	All 17 Sustainable Development Goals of the UN could be described and explained in detail, as well as convincingly advocated and promoted with various types of films.

Learning outcomes	**Study methods**	**Assessment methods**	**Assignments. Requirements/format**	**Supervision and identity verification during assessment**
Perform shooting and editing of films at the basic level	Lectures, individual activities, discussions	Evaluation of assignments	Individual work including the creation of short film on the chosen topic Requirements: filmmaking activities	Unsupervised with no identity verification
Demonstrate an understanding of the basic principles, methods and technologies used in the filmmaking.	Lectures, individual activities, discussions	Attendance, evaluation of assignments, oral exam	Individual work Requirements: filmmaking activities, presentation in front of the colleagues	Unsupervised with no identity verification (assignments); supervised with identity verification (oral exam)
Bibliography	**Books:**			

1. Reich, John. (2017) *Exploring Movie Construction & Production: What's So Exciting about Movies?*. Open SUNY Textbooks. URL: https://ecampusontario.pressbooks.pub/movieconstruction/
2. Moss, Yelizaveta; Wilson, Candice. *Film Appreciation*. University of North Georgia, Affordable Learning Georgia. URL: https://alg.manifoldapp.org/projects/film-appreciation
3. Sharman, Russell. (2020) *Moving pictures: An introduction to cinema*. University of Arkansas. URL: https://uark.pressbooks.pub/movingpictures/

Publications/articles:

1. Martín Moro, Ruth; García Prieto, Álvaro, et al. (2022). *WAAT Guide for Educators*. URL: https://waatproject.eu/guide
2. Blanco, Xiomara. (2023) *Museums and YouTube: You'll never believe these 3 tips to improve your channel*. American Alliance of Museums. URL: https://www.aam-us.org/2023/05/05/museums-and-youtube-youll-never-believe-these-3-tips-to-improve-your-channel/
3. Robbins, Emily. (2015) *Art Museums and YouTube: Current Practice and Potential Strategy*. MW2015: Museums and the Web. URL: https://mw2015.museumsandtheweb.com/paper/art-museums-and-youtube-current-practice-and-potential-strategy/index.html
4. Zeman, Jarrett. *16 Tips for Creating a Small Museum YouTube Series*. American Association for State and Local History. URL: https://aaslh.org/16-youtube-tips/

System thinking and system dynamics modelling

(link to the website and registration platform available here)

Professor's name, university & email	Vitalij Denisov, Klaipeda University (Lithuania) vitalij.denisov@ku.lt
Sector	Smart
Thematic area	Digital humanities
EQF level	Level 6 (Bachelor)
ISCED-F field	0688 - Inter-disciplinary programs and qualifications involving information and Communication Technologies
ESCO skills & competences	T2.1 – transversal skills and competences – thinking skills and competences - processing information, ideas and concepts S2.7.0 – skills – information skills - analysing and evaluating information and data S5.6.0 – skills – working with computers – using digital tools for collaboration, content creation and problem solving K0688 – knowledge – information and communication technologies (ICTS) - inter-disciplinary programmes and qualifications involving information and communication technologies (ICTS)
Proposed dates of the classes	Fridays, 21/11, 28/11, 05/12, 12/12, 19/12, 20/12 14:00-16:00 (CET)
One hour for tutoring consulations	Friday, 19/12, 16:00-17:00 (CET)
Date of the exam/ final assessment	19/12, 23:59 (CET) deadline for portfolio submission (collection of models in Moodle) 20/12, 15:00-16:00 (CET), time-limited quiz (Moodle)
Synchronous & asynchronous hours	Synchronous contact hours: 11 h Asynchronous hours & self-directed learning: 14 h
General description	This micro-credential aims to develop intuition for systems thinking and more formal skills in modeling systems dynamics. It enables students to define a problem and formulate the system under study, as well as to develop their own computer models of system dynamics for various phenomena and processes in various fields of knowledge and application areas. When applied in the humanities and social sciences, the course also aims to bridge the gap between the descriptive approach used in the social sciences and the formal approach typically used in the natural sciences. Being proposed as an approach for managing complexity, the systems thinking provides a tool to help analysts, policy and decision makers understand the cause-

	and-effect relationships among data, information, and people, i.e., the main constitutes of the modern knowledge-based society. It, therefore, improves individual and collective decision making by focusing attention on the causes of problems and potential changes needed to produce better results. Also, system dynamics approach helps linking the knowledge that students have already acquired while studying different disciplines.
Description of the content (week by week)	Unit 1. Concept of a system, systems and models (2 hours: lecture): – System approach. Definition of a system. System analysis principles. Systems thinking and system dynamics approach. – From systems to their models. Model types, mathematical and simulation models. Dynamic models. – Model development procedure and techniques. Causal loops and stock and flow diagramming methods. Unit 2. Model design in a simulation system (2 hours: lecture and practical work) – Modeling systems (simulators). – Model design in a simulation system using stock and flow diagrams. – Running created models (model simulation). Unit 3. Models of growth and decline (2 hours: lecture and practical work) – Growth laws. Formulation of assumptions of growth models. – Numerical implementation of models. Unit 4. More complex models: (2 hours: lecture and practical work). – Models of interactions. Different types of interactions: predator-prey, competition, etc. – Presentation of modelling results. Phase portrait of a system. Unit 5. Spread and diffusion models (2 hours: lecture and practical work). – Epidemic models. Innovation and product diffusion models. – Summary of the course, duscussion and model portfolio formation.
Importance for society	Rapid changes in all spheres of our lives complicate the world. As recent WEF reports highlight, megatrends such as the emergence of a global economy, rapid urbanization, technological breakthroughs, climate change, and resource scarcity are shaping a whole new set of global risks for which our society must be better prepared. Systems thinking is often referred to as the “cognitive skill of the 21st century” because it is important to learn a new way of thinking about this ever-changing, increasingly complex world and equip students with the analysis and modeling skills they need to succeed in their future lives.
Skills (hard and soft skills)	Hard skills: – System dynamics diagramming methods – Design & application of simulation models Soft skills: – Creative & critical thinking – Problem solving
Sustainable Development Goals	SDG4: Quality education SDG8: Decent work and economic growth SDG11: Sustainable cities and communities SDG12: Responsible consumption and production

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Demonstrate fresh knowledge of systems analysis principles and deep under-standing of the system dynamics approach and its application to the development of conceptual and simulation models	Lectures, discussions	Online Quiz	Time-limited quiz in the virtual learning environment Moodle: 10-questions of different type	Supervised online with login-based identity in Moodle
Prepare new & apply existing computer-based simulation models using stock and flow and causal loop diagrams in a simulation system	Presentations, diagramming, simulation of real-life situations, problem-based learning	Portfolio	Individual work. Submission of portfolio in Moodle in the form of individually developed system dynamics models in a chosen simulation system	Unsupervised online submission of portfolio in Moodle with login-based identity verification

Bibliography

Books:

1. Meadows, D. Thinking in systems. A Primer. Edited by D. Wright, Sustainability Institute. Earthscan: London. 2009. 218 p. ISBN: 978-1-84407-726-7
2. Bossel, H. Systems and Models: Complexity, Dynamics, Evolution, Sustainability. Norderstedt, Germany: BoD - Books on Demand, 2007. ISBN 9783833481215.
3. Borshchev, A. The Big Book of Simulation Modeling: Multimethod Modeling with Anylogic 6. AnyLogic North America, 2013, 614 p.
4. Grigoryev, I. AnyLogic 8 in Three Days. A quick course in simulation modeling. Fifth edition, 2023. 252 p.

Publications/articles:

1. Sarah York, Rea Lavi, Yehudit Judy Dori, and MaryKay Orgill. Applications of Systems Thinking in STEM Education. // J. Chem. Educ. 2019, 96, 12, p. 2742–2751. https://doi.org/10.1021/acs.jchemed.9b00261
2. Sakalauskas L, Denisov V, Dirzyte A. Hybrid Modeling of Anxiety Propagation in Response to Threat Stimuli Flow. // Mathematics. 2023; 11(19):4121. https://doi.org/10.3390/math11194121
3. A system dynamics glossary. Compiled by David N. Ford. // Syst. Dyn. Rev. 35, 369–379 (2019). https://doi.org/10.1002/sdr.1641

Websites:

1. The System Thinker. System Thinking: What, Why, When, Where, and How? By Michael Goodman. https://thesystemsthinker.com/systems-thinking-what-why-when-where-and-how/

	2. Systems thinking: https://en.wikipedia.org/wiki/Systems_thinking 3. What is System Dynamics? https://www.uib.no/en/rg/dynamics/39282/what-system-dynamics 4. Stella Online. Powerful modeling and diagramming capabilities in any web browser: https://www.iseesystems.com/store/products/stella-online.aspx 5. AnyLogic: Simulation Modeling Software Tools and Solutions. https://www.anylogic.com/ 6. AnyLogic Personal Learning Edition (PLE) download: https://www.anylogic.com/s/download-free-simulation-software-for-education/

Environmental literature

(link to the website and registration platform available here)

Professor's name, university & email	Mirna Sindičić, University of Zadar (Croatia) msindici@unizd.hr
Sector	University
Thematic area	Environmental and science education
EQF level	Level 6 (Bachelor)
ISCED-F field	0232 Literature and linguistics
ESCO skills & competences	S1.3.1 – Skills – communication, collaboration and creativity – teaching and training – teaching academic or vocational subjects – teach principles of literature K0232 – Knowledge – arts and humanities – languages - literature and linguistics – literary theory K0314 – Knowledge – social sciences, journalism and information – social and behavioural sciences - sociology and cultural studies
Proposed dates of the classes	Mondays, 24/11, 01/12, 08/12, 15/12, 22/12, 05/01, 08:00-10:00 (CET)
One hour for tutoring consulations	Tuesday 23/12, 08:00-09:00 (CET)
Date of the exam/ final assessment	Monday, 05/01/2026, 08:00-10:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 12 h Asynchronous hours & self-directed learning: 13 h
General description	Environmental humanities are among the most dynamic subfields in literary and cultural studies today. This course on environmental literature, situated within the framework of environmental humanities, provides guidance in reading and analyzing climate fiction and environmental literature. Through the study of selected fictional texts, students will explore nature/society dualisms and the relationship between humans and the natural environment. Reading literature offers numerous benefits beyond entertainment and personal growth. It enriches vocabulary, develops empathy, enhances communication skills, and fosters analytical and critical thinking. Importantly, it also raises awareness of climate change and underscores the need for a more sustainable way of living. The aim of this course is to examine why literary fiction matters in the context of climate change discussions, investigate how literary and cultural forms shape perceptions of and relationships with the environment, and understand how writers express their environmental concerns within broader debates on climate change. Ultimately, the course seeks to demonstrate how fictional texts can

	raise awareness about climate change and suggest new ways of thinking about this critical issue.
Description of the content (week by week)	Unit 1. Course introduction. What are the Environmental humanities? What is the Anthropocene? Responding to the Environmental crisis (2 hours) Unit 2. Literature and the Anthropocene. Ecocriticism and Ecopoetics. Does Climate fiction make a difference? (2 hours) Unit 3. Early ecological fiction and Nature Writing. (2 hours) Unit 4. Climate change and 20th and 21st Century Literature. (2 hours) Unit 5. Imagining extinction. Concluding remarks. (2 hours)
Importance for society	• Increases awareness on environmental issues. • Humanizes climates change and provokes empathy. • Provokes ethical reflections and critical thinking about environment, ecology, climate change and sustainability. • Inspires action and change.
Skills (hard and soft skills)	Hard skills: Writing skills, Communication skills Soft skills: Analytical & Critical thinking, Active listening
Sustainable Development Goals	SDG4. Quality education SDG5. Gender quality SDG10. Reduced inequalities SDG11. Sustainable cities and communities SDG12. Responsible consumption and production SDG13. Climate action SDG17. Partnerships for the goals

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Analyse the assigned environmental literature	Lecture and discussion	Presentation prepared by student	Individual work on final essay	Supervised online
Interpret literary and cultural texts within wider debates and discourses on environment and climate change	Case studies	Evaluation of assignment	Attendance and class participation	Supervised online

Bibliography	

Books:

1. Jean Giono, *The Man who Planted Trees*
2. Paolo Cognetti, *The Eight Mountains*
3. J. G. Ballard, *The Drowned World*
4. Maja Lunde, *The History of bees*

Publications/articles:

1. Clark, Timothy (2011), *The Cambridge Introduction to Literature and the Environment*, Cambridge University Press.
2. Emmet, R. S., Nye, D. E. (2017), *The Environmental Humanities. A Critical Introduction,* The MIT Press
3. Parham, John (ed.) (2021), *The Cambridge Companion to Literature and the Anthropocene,* Cambridge University Press.

Websites:

1. https://climateimagination.asu.edu/everything-change/
2. https://www.dailymotion.com/video/xw69i5
3. https://www.imdb.com/title/tt14641542/

Games and Gamification

(link to the website and registration platform available here)

Professor's name, university & email	Josip Ćirić, University of Zadar (Croatia) jciric@unizd.hr http://djelatnici.unizd.hr/~jciric/index_en.html
Sector	Smart
Thematic area	Games and gamification
EQF level	Level 6 (Bachelor)
ISCED-F field	018 Inter-disciplinary programmes and qualifications involving education
ESCO skills & competences	K0288 – knowledge - arts and humanities - inter-disciplinary programmes and qualifications involving arts and humanities K0211 – knowledge - arts and humanities - audio-visual techniques and media production – digital game genres S1.11.0 - skills - communication, collaboration and creativity – designing systems and products – designing systems and products - apply gaming psychology S2.1 – skills - information skills - conducting studies, investigations and examinations
Proposed dates of the classes	Tuesdays, 25/11, 02/12, 09/12, 16/12, 13/01, 16:00-18:00 (CET)
One hour for tutoring consulations	To be announced
Date of the exam/ final assessment	Tuesday, 13/01, 16:00-18:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	Gaming industry is not only growing steadily, but it has also become one of the largest entertaining industries in the world, considering both production investment, and number of players. A considerable social influence deriving from the gamer culture is evident. Transforming educational activities into game-like experience has proven to be a positively perceived experience. In this course students will have the opportunity to learn some of the most frequent game mechanics in video games and how using the same principles they may transform courses. Basic principles of gamification are to be presented, understood and applied in exercises. A pilot project will be part of the course, and it will serve as a grading base also.

Description of the content (week by week)	Unit 1. Introduction (1 hour) Unit 2. Anthropology and psychology of gaming (3 hours) • Caillois and Huizinga • Appling psychological theories to gaming experience • Psychological principles of game design Unit 3. Game mechanics (2 hours) • Key elements of game mechanics: rules, objectives, and systems • Case studies of effective game designs Unit 4. Game-based learning experience (1 hour) • Educational games: an overview • Designing gamified learning environment Unit 5. Gamification principles (2 hours) • Gamification strategies in business and education: an overview • Point systems, badges, and leaderboards Unit 6. Implementing games in the classroom (1 hour) • How to integrate games into the course curricula • Overcoming implementational challenges			
Importance for society	Understanding both more productive and more motivational approach to education is important insight if we're to provide relevant and up-to-date educational experience. Relying on win-win approach in the game theory, students, institutions, and in the long run, society profits from motivated, informed and enthusiastic participants in the educational process.			
Skills (hard and soft skills)	Hard skills: Computer software use Soft skills: Problem solving, Creativity and innovation			
Sustainable Development Goals	SDG4. Quality education			
Learning outcomes	**Study methods**	**Assessment methods**	**Assignments. Requirements/format**	**Supervision and identity verification during assessment**
Identify and describe main gamification strategies	Lectures, individual activities, discussions	Written exam	Acquiring basic knowledge about gamification, reading materials available on Moodle platform	Supervised online or onsite with identity verification
List and describe the basic principles, methods and techniques used	Lectures, individual activities, discussions	Assignment evaluation	Students will perform gamification process on a lecture from a course of their own choosing; a short	Supervised online or onsite with identity verification

in a gamifying process			written report is to be provided	
Bibliography	**Books:** 1. Kapp, Karl M. (2014) *The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education*. Pfeiffer, (selected chapters) 2. Farber, Matthew (2017) *Game-Based Learning in Action: How an Expert Affinity Group Teaches With Games*. Peter Lang Inc., International Academic Publishers (selected chapters) 3. Griliopoulos, Daniel; Webber, Jordan Erica (2017) *Ten Things Video Games Can Teach Us: (about life, philosophy and everything).* Little, Brown Book Group. 4. Ma, Minhua et. Al. (2011) *Serious games and edutainment applications.* Springer-Verlag London. (selected chapters) **Publications/articles:** 1. Erenli, Kai (2012) *The Impact of Gamification A Recommendation of Scenarios for Education.* IEEE. DOI: 10.1109/ICL.2012.6402106 2. De Sousa Borges, S. et. al. (2014) *A Systematic Mapping on Gamification Applied to Education.* Proceedings of the 29th Annual ACM Symposium on Applied Computing DOI: 10.1145/2554850.2554956 3. Nah, F. F. H. et al. (2013) *Gamification of Education Using Computer Games.* Lecture Notes in Computer Science. DOI: 10.1007/978-3-642-39226-9_12			

Artificial Intelligence (in a Nutshell)

(link to the website and registration platform available here)

Professor's name, university & email	Prof. Dr. Thomas Kirste, University of Rostock, Germany thomaskirste@uni.rostock.de
Sector	Smart
Thematic area	Artificial intelligence in office work
EQF level	Level 6 (Bachelor)
ISCED-F field	0619 Artificial Intelligence
ESCO skills & competences	S5.5.0 – skills – working with computers – accessing and analysing digital data - accessing and analysing digital data S5.6.0 – skills – working with computers – using digital tools for collaboration, content creation and problem solving – using digital tools for collaboration, content creation and problem solving K0619 – knowledge – information and communication technologies (icts) - information and communication technologies (icts) - information and communication technologies not elsewhere classified (principles of artificial intelligence)
Proposed dates of the classes	Tuesday, 25/11, 17:00-19:00 (CET) Thursday, 27/11, 15:00-17:00 (CET) Wednesday, 03/12, 10:00-12:00 (CET) Tuesday, 09/12, 17:00-19:00 (CET) Thursday, 11/12, 15:00-17:00 (CET)
One hour for tutoring consultations	The individual consultations hours will be adapted to students' timetables.
Date of the exam/ final assessment	Thursday, 11/12, 16:00-17:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	Artificial Intelligence (AI) has become one of the most transformative technologies of our time, reshaping science, industry, and society. This Micro-Credential introduces core concepts and methods of AI, combining classical symbolic approaches with modern data-driven techniques. Participants will explore problem solving, probabilistic reasoning, and machine learning, and conclude with an introduction to large language models, which are at the forefront of today's AI applications. The course is designed to provide both theoretical insights and practical understanding of AI methods, loosely based on the standard text Artificial Intelligence: A Modern Approach (Russell &

	Norvig). The short format ensures accessibility to non-specialists while providing enough depth to build a solid conceptual foundation. By the end, participants will be able to critically evaluate AI technologies, and their potential uses in different domains.
Description of the content (week by week)	Unit 1. Artificial Intelligence: Overview (2 hours) Unit 2. Solving Problems: Symbolic Methods (2 hours) Unit 3. Handling Uncertainty: Probabilistic Reasoning (2 hours) Unit 4. Making Use of Data: Machine Learning (2 hours) Unit 5. Attention is all you need: Large Language Models (1 hour) Unit 6. Exam (1 hour)
Importance for society	AI impacts nearly every aspect of modern life, from healthcare to mobility, education, and urban sustainability. Equipping citizens and professionals with a sound understanding of AI is essential to ensure responsible use and informed decision-making in shaping our collective future.
Skills (hard and soft skills)	Hard skills: Understanding and applying fundamental AI methods (symbolic reasoning, probabilistic models, machine learning). Soft skills: Critical thinking about the opportunities and limitations of AI; interdisciplinary communication about AI concepts.
Sustainable Development Goals	SDG4. Quality education SDG8. Decent work and economic growth SDG9. Industry, innovation and infrastructure SDG10. Reduced inequalities (via accessible/ethical AI and fairness topics) SDG11. Sustainable cities and communities (smart urban/coastal focus) SDG13. Climate action (AI for monitoring, adaptation, and mitigation use cases)

Learning outcomes	**Study methods**	**Assessment methods**	**Assignments. Requirements/format**	**Supervision and identity verification during assessment**
Ability to analyse a given problem and justify the selection of an appropriate AI approach	Lecture, individual work	Online quiz	Individual work (self-study)	Unsupervised with no identity verification
Apply a basic AI workflow	Lecture, individual work	Mini case study	Individual work (self-study)	Unsupervised with no identity verification
Bibliography	Book: Stuart Russel and Peter Norvig. *Artificial Intelligence – A Modern Approach*			

Co-funded by
the European Union

English Communication for Sustainable Development

(link to the website and registration platform available here)

Professor's name, university & email	Arash Javadinejad, Catholic University of Valencia (Spain) arash.javadinejad@ucv.es
Sector	Sustainability
Thematic area	English for Sustainability
EQF level	Level 6 (Bachelor)
ISCED-F field	0231 Language acquisition
ESCO skills & competences	T1.1 - Transversal skills and competences- core skills and competences- mastering languages - academic English L1 - Language skills and knowledge – languages – English - academic English K0231 - Knowledge - Knowledge arts and humanities – languages - language acquisition - academic English
Proposed dates of the classes	Wednesdays, 10/12, 17/12, 07/01, 14/01, 21/01, 11:30-13:30 (CET)
One hour for tutoring consulations	Friday, 16/01, 12:00-14:00 (CET)
Date of the exam/ final assessment	Wednesday, 21/01, 11:30-13:30 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 10 h Asynchronous hours & self-directed learning: 15 h
General description	English Communication for Sustainable Development is an advanced level course to improve your English skills related to the thematics of Sustainable Development Goals (United Nations, 2015). High-standard material is taught through a blend of online-autonomous lessons and activities, accompanied by a tutor for support. In this course, the student will learn and practice dealing with authentic material and topics related to Sustainability; the course will help sharpen his/her edge in terms of the receptive (reading and listening) and productive (speaking and writing) skills.
Description of the content (week by week)	Unit 1. Social Aspects of Sustainability (2 hours) Unit 2. Sustainability, Economy and Inequality (2 hours) Unit 3. Sustainability and Environment (2 hours) Unit 4. International Cooperation and Sustainability (2 hours) Unit 5. Conclusion and Evaluation (2 hours)

Importance for society	The course "English Communication for Sustainable Development " is significant for society as it integrates language learning with critical environmental issues, fostering global awareness and communication skills essential for addressing sustainability challenges. By focusing on Sustainability, the course raises awareness about the interconnectedness of environmental, social, and economic systems, emphasizing the importance of sustainable practices for the well-being of future generations. It encourages students to think critically about environmental impacts, promotes sustainable living habits, and equips them with the vocabulary and communication tools needed to engage in meaningful discussions and advocacy for sustainable development. This kind of education is vital in cultivating informed and proactive global citizens committed to preserving the planet.
Skills (hard and soft skills)	Hard skills: • Grammar and vocabulary proficiency in the area of Sustainability, • Technichal communication (written and spoken). Soft skills: • Critical Thinking: Through exploring sustainability challenges, students will develop the ability to analyze problems, evaluate solutions, and think critically about the implications of various actions on the environment and society. • Effective Communication: The course emphasizes the importance of conveying ideas clearly and persuasively, both in written and spoken forms, fostering the ability to engage diverse audiences in discussions about sustainability issues and initiatives.
Sustainable Development Goals	All 17 Sustainable Development Goals are covered during the course, so that the student is able to use specific vocabulary after the course.

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements/format	Supervision and identity verification during assessment
Find necessary linguistic resources related to Sustainability	Presentations Lectures Group Work Individual Work Homework (Tasks)	Continuous assessment: Portfolio of activities, projects and tasks Evaluation of assignments Collected evidence from formal and informal learning	Group work, Individual work, and tasks Requirements: Individual work Work in pairs Presentation in front of colleagues Written tasks (essay)	supervised online or onsite with identity verification

Discuss issues related to Sustainability in written and spoken discourse		Class observation and participation Quizzes on the platform		

Bibliography	**Books:** 1. Cambridge Complete First, Cambridge University Press & Assessment 2. Cambridge Complete Advanced, Cambridge University Press & Assessment 3. Cambridge Compact First, Cambridge University Press & Assessment 4. Cambridge Compact Advanced, Cambridge University Press & Assessment **Websites:** https://sdgs.un.org/goals

Durable, Sustainable, Resilient?

(link to the website and registration platform available here)

Professor's name, university & email	Alexandru Aldea, Florin Pavel, Technical University of Civil Engineering Bucharest (Romania) alexandru.aldea@utcb.ro; florin.pavel@utcb.ro
Sector	European
Thematic area	International standardisation
EQF level	Level 6 (Bachelor)
ISCED-F field	0732 Building and Civil Engineering
ESCO skills & competences	S2.1.3 interpreting technical documentation and diagrams S4.1.4 developing policies and legislation K0732 building and civil engineering
Proposed dates of the classes	Monday & Wednesdays, 15/12, 17/12, 07/01, 14/01, 21/01, 28/01, 17:00-19:00 (CET)
One hour for tutoring consulations	Monday, 26/01, 17:00-19:00 (CET)
Date of the exam/ final assessment	Wednesday, 28/01, 17:00-19:00 (CET)
Synchronous & asynchronous hours	Synchronous contact hours: 12 h Asynchronous hours & self-directed learning: 13 h
General description	Official documents at all levels (university, working place, public administration at local, regional, and national level, EU, UN institutions, etc.) as well as media and social media are nowadays full of concepts like hazard, vulnerability, risk, durable, sustainable, resilient. Many people are misunderstanding or missing the proper use of these concepts and their meaning. Through this course, participants will understand the concepts and their correct use in different circumstances, through case studies.
Description of the content (week by week)	Unit 1. Concepts of hazard, vulnerability, risk and resilient in official documents at all levels (university, working place, public administration at local, regional, and national level, EU, UN institutions, etc.) as well as media and social media. (4 hours) Unit 2. Concept of durability in official documents at all levels (university, working place, public administration at local, regional, and national level, EU, UN institutions, etc.) as well as media and social media. (1 hour)

	Unit 3. Concept of sustainable in official documents at all levels (university, working place, public administration at local, regional, and national level, EU, UN institutions, etc.) as well as media and social media. (2 hours) Unit 4. Proper use of concepts (3 hours)
Importance for society	Appropriate use of concepts like hazard, vulnerability, risk, durable, sustainable, resilient is essential since the SDG's are more and more part of professional and social realities. A clarification of concepts is beneficial for nowadays citizens, regardless their field of study.
Skills (hard and soft skills)	Hard skills: Understanding and proper use of the concepts for elaborating documents Soft skills: Critical thinking, Communication
Sustainable Development Goals	SDG4. Quality education SDG9. Industry, innovation and infrastructure SDG11. Sustainable cities and communities SDG12. Responsible consumption and production

Learning outcomes	Study methods	Assessment methods	Assignments. Requirements /format	Supervision and identity verification during assessment
Appropriately define, describe and use the concepts of hazard, risk, durable, sustainable, resilient.	Lecture, discussions, Individual work	Written assessment	Individual work	Supervised online with identity verification
Distinguish and explain the use of the concepts in social and institutional environment.	Lecture, discussions, group work	Quizz	Group work	Supervised online with identity verification

Bibliography

Websites:

1. Disaster Resilience Scorecard for Cities, https://www.unisdr.org/campaign/resilientcities/assets/toolkit/Scorecard/UNDRR_Disaster%20resilience%20%20scorecard%20for%20cities_Detailed_English.pdf
2. Sendai Framework for Disaster Risk Reduction 2015 – 2030, https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf
3. Mitchell, A. (2013) Risk and Resilience: From Good Idea to Good Practice. https://www.oecd.org/dac/conflict-fragility-resilience/docs/FINAL%20WP%2013%20Resilience%20and%20Risk.pdf

4. Schofield, H., Twigg, J. (2019) Making Cities Sustainable and Resilient, https://www.preventionweb.net/files/66413_undrrlessonslearnedfromdevcoproject.pdf
5. Hofmann, S.H. (2021) 100 Resilient Cities program and the role of the Sendai framework and disaster risk reduction for resilient cities. Progress in Disaster Science, 11: 100189. https://www.sciencedirect.com/science/article/pii/S2590061721000491
6. UN Common Guidance on Helping Build Resilient Societies. https://unsdg.un.org/sites/default/files/2021-09/UN-Resilience-Guidance-Final-Sept.pdf
7. Building Regulation for Resilience. https://www.gfdrr.org/sites/default/files/publication/BRR%20report.pdf
8. Mapping Resilience for the Sustainable Development Goals, https://www.undrr.org/media/88718