ΠΑΝΕΠΙΣΤΗΜΙΟ
ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ

A18. E-learning Regulation

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REPORT ON DISTANCE LEARNING EDUCATION

Pursuant the Interministerial Decree-Government, Gazette 1079, paragraph 4, which prescribes distance learning requirements and procedures for Postgraduate Study Programmes at Higher Educational Institutions (HEIs), the relevant decision is accompanied with a detailed report, comprising the following information:

a) **documentation of feasibility and appropriateness of distance learning Postgraduate Study Programmes (PSP).**

The Postgraduate Study Programme highly compatible with distance learning education. The curriculum includes courses or modules, which can be effectively delivered via synchronous online lectures (using PowerPoint presentations, etc.) incorporating audiovisual materials.

b) **analysis of the proposed methods of organising the educational process (face-to-face, synchronous, asynchronous, blended system) for each course curriculum activity, and allocation of teaching hours for each postgraduate study programme activity per implementation method, as well as rates of asynchronous distance learning education for each course activity and, the entire curriculum.**

The educational process (including face-to-face, synchronous, asynchronous, and blended methods for each curriculum activity) is managed by the Department of …. at the University of Western Macedonia, which runs the specific postgraduate study programme, in accordance with Article 1 of the Postgraduate Programme Regulation.

Article 1 - Access to the integrated distance learning system, user authentication process, access rights by user type

i) Access to the integrated distance learning system

UoWM's integrated distance learning system, which supports both synchronous and asynchronous distance learning processes, is designed to effectively facilitate organising the relevant educational processes by employing both synchronous and asynchronous methods. UoWM's integrated distance learning system includes:

a) Moodle

Online educational processes are supported via Moodle platform (Modular Object-Oriented Developmental Learning Environment). Moodle is a specialised software created for managing and delivering online courses, offering comprehensive services tailored for asynchronous distance learning. In detail, it provides:

- modern and user-friendly interface,
- collaborative learning and activity tools and capabilities,
- synchronous file management environment,
- progress monitoring capability.

Learners can access the online training platform using their personal credentials (username and password). Access requirements for Moodle include the use of a computer with Internet access and a web browser for multimedia, whereas for technical support, learners can contact the competent service via email.

In e-learning contexts, enrolled students gain access to the Study Programmes upon logging into the e-learning platform. Course units are progressively unlocked, and are accompanied with comprehension or assessment questions, which learners can attempt multiple times. Courses enable learners to autonomously complete a Study Programme based on their cognitive abilities, capacity to assimilate knowledge, and available time, while adhering to the maximum duration specified in the respective Course Guide.

Moodle course material is organised and delivered on a weekly basis. Online sessions qualify students with new knowledge and relevant cognitive abilities and skills, engage them in discussions, and facilitate progress through levels of learning from memorisation and comprehension to application, analysis, evaluation, and creation.

Within the Moodle Learning Management System, the following information is accessible:

1. Contact information about instructors, Administration service, Help Desk (technical support, etc.).
2. Course announcements.
3. Course and instructor evaluation form.
4. Learning Objectives and Learning Outcomes.

5. Bibliography, supplementary course material, and multimedia resources to facilitate further elaboration on course material.
6. Scheduled teleconferencing sessions with information about dates and hyperlinks.
7. Schedule of planned activities, specifying the dates for compulsory sessions, and activities and assignments requiring grading.
8. Weekly course material, including self-assessment activities and compulsory activities requiring grading as well as the relevant links.

Summary - Organising study process - Using Moodle - Asynchronous Education

Modules are scheduled on a weekly basis on the Moodle learning management platform, following study schedules. More specifically, weekly material includes:

1. Module title, description, and introduction.
2. Learning Objectives and Learning Outcomes.
3. Keywords.
4. Study Assistant.
5. Annotated bibliography (Mandatory, Optional/Supplementary), sources, digital and multimedia material, etc.
6. Self-assessment activities (if available).
7. Interactive activities/dynamic online interaction activities.
8. Evaluation activity/assignment (if available).
9. Q&A Forum.
10. Recommended student engagement time.

Students are required to study the weekly course material, which is designed to optimise their learning efficiency. In detail:

1. Module title provides information and prepares for new delivered knowledge.
2. The description of learning objectives and outcomes is critical for study effectiveness.
3. Keywords involve new or significant concepts presented to students.
4. Study assistant includes lecture notes, bibliography, and additional resources (bibliographical, online) facilitating the dissemination of new knowledge. By providing fundamental information and moving to more advanced topics using bibliographical resources, students enhance their cognitive abilities and skills as well as the depth and implementation of acquired knowledge in various contexts and settings.

5. Annotated bibliography (mandatory, optional/supplementary), resources, and digital multimedia material offer the opportunity to enhance acquired knowledge.
6. Self-assessment activities contribute to checking comprehension of new knowledge and enable students to undertake corrective actions.
7. Interactive activities are designed to facilitate the application of newly acquired knowledge, bridging the gap between theoretical understanding and practical experience.
8. The evaluation activity/task (if available) provides feedback opportunity.
9. Q&A Forum serves its primary purpose and offers students a valuable opportunity to improve comprehension by communicating learnt material to others. In addition, instructors can review the forum prior to online sessions to identify students' needs and tailor sessions accordingly.
10. Recommended study time provides a general guideline of the time required for mastering, comprehending, and implementing new knowledge.

Detailed information on Moodle is provided in the user manual for instructors (Appendix C) and the user manual for learners (Appendix D).

b) eclass by GuNET

Open eClass, an integrated Learning Management System offered by the Greek Universities Network (GUnet), endorses Asynchronous Distance Learning Services. The platform is designed to improve educational processes, adheres to open-source software principles, is actively supported by GUnet, and free to use. Users can access asynchronous distance learning services through a standard web browser without any specialised technical knowledge. Open eClass is:

- adaptable to requirements,
- flexible,
- easy to use,
- upgradeable and extensible,
- free to use - no license and maintenance fees required,
- available with low operational requirements,
- Operating System independent,
- openly accessible and usable (Open standards),
- designed to offer Web Services Integration, multilingual support, and clear functional structures (registration, access, course material development, management, etc.)
- supported by the Greek Universities Network (GUnet).

The platform supports three primary user roles:

- ✓ Instructors
- ✓ Students
- ✓ Administrators (also assistant administrators, user managers, teaching assistants, team leaders, guests, etc.)

Instructors create and manage e-learning courses by firstly requesting platform administrators for a personal account. They can create as many courses as desired, communicate with enrolled students, upload, and manage course material (i.e., texts, images, presentations, videos, assignments, self-assessment exercises, etc.), create workgroups and discussion forums, and, overall, monitor educational processes.

Students can register in courses as specified, have access to course materials, and take part in workgroups, discussion forums, and self-assessment exercises. Student accounts are either automatically created upon registration on e-class or upon request by e-class administrators, who monitor overall platform operation, create, and manage user accounts, administer courses, and also monitor and manage e-class server and database.

On the eClass platform, courses are structured as modules comprising seventeen (17) subsystems (course tools), where the primary course material is stored and organised, and four (4) management tools. Instructors can activate and deactivate them according to the structure and material of the assigned course, thus simplifying learner environment, and allowing only the required modules to be displayed. In addition, course subsystems include:

- *Documents*, in which course material is stored, organised, and presented. In detail, this subsystem provides a user-friendly system to manage, organise, and sort course material (i.e., texts, presentations, images, diagrams, etc.) using a catalogue and sub-catalogue system.
- *Announcements* for the enrolled users, instructors, and learners.
- *Discussion Forums* to facilitate exchanging views and ideas on course-related topics and to be used as an instructor-learner interaction subsystem.
- *Agenda* of fundamental course information (i.e., lectures, meetings, assessments, etc.) in chronological order.
- *Workgroups* (open/closed), which comprise registered users (learners and instructors), who share discussion forums and file upload areas, and promote collaboration and interaction among learners.
- *Self-assessment activities* designed by instructors to enable learners to make practice of delivered course material.

- *Assignments*, which are digitally managed, submitted, and marked.
- *Multimedia*, which is a space for storage and delivery of audiovisual course material, allowing either for uploading multimedia files or providing relevant external links to multimedia files.
- *Chat* to enable real-time communication with messages.
- *Telecollaboration* to allow real-time whiteboard and audiovisual communication with learners.
- *Messaging* between instructors and learners to ensure feedback on course activities.
- *Gradebook* with student grade records.
- *Attendance record* of learners' presence/absence.
- *Questionnaires* for surveys and learning profile research.
- *Progress report* to help learners improve performance and achieve course objectives by offering rewards and certificates.
- *Interactive content* to enable creating interactive learning objects by employing 40 types of course H5P resources.
- *Learning thread* to allow instructors to organise course material into structured units, which facilitate learners to follow a series of steps as learning activities.
- *Wiki*, enabling collaboration between instructors and learners for creating shared documents collaboratively.
- *Glossary*.
- *Statistics*.
- *Links*, etc.

The integrated distance learning system operates primarily in Greek, but also fully supports English, thus enabling UoWM Postgraduate Study Programmes to be delivered in languages other than Greek.

c) Zoom

UoWM runs a Zoom video conferencing software on subscription for 250 meeting rooms and one webinar room for 1,000 participants.

Zoom supports virtual classrooms, enabling real-time visual and audio communication using suitable equipment (computers, cameras, microphones, speakers, headphones, high-speed networking, and video conferencing software), and allowing instructors and students to have voice and visual communication while in different locations.

More specifically, Zoom enables instructors and students to:

- share applications and text (application and document sharing)

- use a digital whiteboard
- write messages
- access chat rooms to collaborate, interact, share views, and carry out group work, by creating different rooms in the same virtual classroom (breakout rooms).

d) Library

UoWM runs outstanding libraries across all University campuses, providing access to rich resources and lending services. In addition to a collection of printed material (over ten thousand), it provides access to three hundred thousand e-books and over five million online articles on subscription, catering for a wide range of needs.

In detail:

- UoWM Library & Information Centre features an Online Public Access Catalogue (OPAC) and is member of the Integrated Library System as a Service (ILSaS) or "MITOS," which is an integrated catalogue containing the entire range of documents from 26 academic libraries. The library catalogue operates on the integrated library automation system **Sierra**. https://opac.seab.gr/search~S16*gre
- University Repository **Dspace**. It is the Digital Library Repository of Academic Papers, aiming to collect, digitally preserve, display, and promote the work produced during studies (all Study programmes), as well as other publications issued by the University of Western Macedonia. https://dspace.uowm.gr
- University Repository **anaktisis.** It is the University Open Access Repository, providing free and unrestricted access to scientific and research material (full texts and metadata). It includes undergraduate and postgraduate theses of the former Technological Educational Institute (TEI) of Western Macedonia in electronic format.http://anaktisis.uowm.gr
- The University has a subscription to Turnitin, a plagiarism check software. Turnitin (Originality Check) is a text comparison software for submitted assignments and papers with texts on the Internet, published works (such as journal articles and books), papers submitted by students to the Turnitin database, and papers available in university repositories. In addition, it checks instances of plagiarism in translated texts. https://noc.uowm.gr/www/services/turnitin/

e) Microsoft Teams

Microsoft Teams is accessible on all devices and incorporates features specifically developed to keep students engaged, even in cases they are not physically present in the classroom. More specifically, Microsoft Teams:

- enables recording lessons to allow students to review course content at their own pace.
- monitors students' progress through integrated information to identify those at risk and take action to improve outcomes.

Teams also integrates various learning management systems to facilitate student collaboration.

*c) **documentation of the University technical infrastructure, in particular, suitability and adequacy of digital infrastructure for Distance Learning Postgraduate Study Programmes,***

in compliance with Article 2 of the University Internal Regulation.

Article 2 - Technological infrastructure, technical support, and infrastructure and technology maintenance and upgrade

The University recognises the vital role of Information and Communication Technologies (ICT) in ensuring the efficient operation of the University and facilitating educational, research, and administrative processes, considering the geographical dispersion of campuses across four (4) Regional Units and five (5) University Cities (Kozani, Ptolemaida, Kastoria, Grevena, Florina), as well as numerous individual buildings.

The University aims to play a pivotal role in the development process of the Region of Western Macedonia, mainly as Greece has declared carbon phase-out by 2028. Accordingly, the University positions itself as a key strategic partner in implementing the regional new development transition model towards a low-carbon economy and intends to be the central hub for fostering an integrated innovation ecosystem within the Region of Western Macedonia. Recognising the significance of digital infrastructure for providing outstanding services to University members and third parties, it has undertaken several actions to enhance information dissemination, such as:

- running an e-Campus Digital University, the main component of which is a central gateway providing secure and functional access to all available online services and data.
- establishing a new Data Centre and modern computing/storage infrastructure, which have significantly expanded the University capacity to host and deliver digital services.

- establishing University spin-offs.

UoWM's technological infrastructure includes:

a) Technological infrastructure

Regarding the University's technical infrastructure, particularly the suitability and adequacy of digital infrastructure for distance learning postgraduate study programmes, UoWM operates centralised computing and storage facilities with:

- **Networking**

The University of Western Macedonia relies on cutting-edge technologies to support constantly upgraded educational, research, and administrative processes. In addition, a unified network enhancing addressability and management efficiency provides interconnection of all building complexes via high-capacity links.

- **Core network**

The University has enhanced its core and access network by implementing new equipment, thus achieving integrated and centrally managed operation. In all University buildings across the five cities of Western Macedonia integrated optical fibre networks ensure efficient centralised management and online services.

Core network connection capacity between all University cities is 10 Gbps, whereas building connection capacity is currently 1 Gbps, with the possibility of future upgrades to 10 Gbps. The University core network relies on the optical fibre infrastructure provided by both the National Infrastructures for Research and Technology (GRNET S.A.) and the Metropolitan Municipality Networks.

- **Wired network**

In all university buildings there is a structured cabling system adhering to contemporary standards to ensure fast and secure access to online services for all members of the University community. Cutting-edge upgrade of network infrastructure, accomplished in 2023, offers the University higher access speeds and enhanced security measures.

- **Wireless network**

UoWM's wireless network spans all University buildings. In 2022, a new-generation centralised wireless network was installed on the University Campus in ZEP, Kozani, providing complete coverage of both indoor and outdoor areas, whereas a complete centralised common technology and protocol wireless network is going to be soon accomplished for all University buildings.

- **Telephone network**

The University of Western Macedonia operates a VoIP telephone service with two IP telephony centres: one based on open-source communication software Freeswitch and another using Cisco Call Manager. Currently, the university is in the process of relocating the entire service and fully transitioning to open-source software and protocols.

The service allows registered University members to make calls on smartphones or computers to:

- ✓ Landline phones within the University,
- ✓ Other users connected to the same service,
- ✓ Long-distance phones of institutions connected to the GUNET/GRNET VoIP network.

- **Centralised computing and data storage infrastructure**

The University operates a centralised computing and data storage infrastructure hosting almost all central online services, as well as a large number of virtual systems for research and educational activities featuring:

Central Processing Unit	432 cores
RAM Memory	1.47 Terabytes
Total Storage Space	33 Terabytes

- **Data Centre**

By the end of 2023, a new state-of-the-art computing and data storage infrastructure will be fully operational, working in conjunction with the existing equipment to enhance reliability, security, and efficiency.

This new infrastructure installed in a specially designed space on the new University campus in Kozani meets security, cooling, power supply, and connectivity requirements.

The modern Data Centre is connected to the University core network via multiple optical fibre paths, each capable of approximately 100Gbps connection capacity. In addition, 1Gbps connections, to be upgraded to 10Gbps by 2023, are installed with the network of the National Infrastructures for Research and Technology (GRNET S.A.) and the Internet to ensure full compliance with present and future capacity, reliability, and availability requirements.

Με σχόλια [AA1]: Έχει αναβαθμιστεί? Αν ναι, τότε: upgraded in 2023...

The new computing/storage facilities feature:

Central Processing Unit (CPU)	384 cores
RAM	2.0 Terabytes
Total Storage Space	120 Terabytes

The University infrastructure at the ZEP campus in Kozani will expand into centralised and core infrastructure across all campuses, accommodating all online services and digital data. The current resources are adequate to fulfil the requirements of both university members and third-party collaborations. In addition, infrastructure scalability ensures long-term computing and storage capabilities.

- **Green Data Centre and Supercomputer of Western Macedonia**

The Green Data Centre and Supercomputer of Western Macedonia is going to be built by the National Infrastructures for Research and Technology (GRNET S.A.) on the University Campus in ZEP Kozani. The specific facility will cover approximately 2,500m^2 and will be part of the network of Research and Education cloud data centres (Government Cloud for Research and Education, as outlined in article 87, Law 4727/2020, for digital governance).

The Green Data Centre and Supercomputer of Western Macedonia will include PV-powered (>3MW) IT information systems of 2MW, thus enhancing the University computing capabilities and promoting full digitisation.

Part of the specific infrastructure will be used to meet the University community needs across multiple computing- and data processing-related disciplines, and for data repositories for educational, research, and development purposes of collaborators and users. It will also function as the 'Regional Data Centre of Western Macedonia' to provide advanced computing services to regional entities for mutual benefit and funding.

- **e-Campus**

The establishment of the e-Campus Digital University, which is currently in progress, is a major project aimed to offer the entire university community easy and secure access to available digital services through a single gateway.

e-Campus provides a central access point for University members to all electronic learning support services, such as e-Class and Moodle e-learning platforms, zoom/Microsoft Teams video conferencing rooms, and e-Library, which allows access to textbooks from all Greek universities. In addition, the eCampus student mobile application enables students to check their progress and course registrations, communicate with the administration service, and carry out requests digitally.

The eCampus Loyalty reward system collaborates with local businesses to offer students various benefits and discounts.

- **Other technology support infrastructure**

b) Technical support

The University provides the following technical support services:

Distance Learning Education Unit

It is a central hub which provides technical support for coordinating and effectively implementing educational processes by employing modern synchronous and asynchronous distance learning methods.

In detail, the Unit:

- ensures that distance learning courses are appropriately designed, developed, integrated, and managed,
- draws up the University distance learning education strategy in collaboration with competent services and presents it to the University Administration bodies,
- collaborates with the Quality Assurance Unit (QAU) to prepare accreditation documents, particularly of the available University digital infrastructure, and manage evaluation and overall quality assurance of the delivered teaching processes in distance learning programmes,
- collaborates with Administration Services of individual distance learning programmes to enhance online student/teacher service delivery,
- collaborates with the Teaching and Learning Support Centre to implement training sessions aimed at upgrading the digital skills of the academic staff involved in distance learning programmes. Special emphasis is placed on the effective implementation of Information and Communication Technologies (ICT) to develop state-of-the-art distance learning course material and adopt innovative educational technologies,
- contributes to assigning duties to a Manager of Integrated Distance Learning Education for the respective distance learning programmes to ensure continuing support both for the teaching staff and students or the appointed competent Administrators,
- collaborates with the Unit for Equal Access of Persons with Disabilities and Persons with Special Educational Needs to ensure accessibility of the available information systems and platforms for distance learning education.

By decision of the competent body, one (1) qualified individual is appointed Manager of the Integrated Distance Learning Education to support the teaching staff and students of distance learning education programmes. The Manager's personal details are communicated to the users of the integrated distance learning system.

Integrated Distance Learning Education Managers are accountable to the IT Distance Learning Unit staff. They have similar responsibilities to the Distance Learning Unit staff, but their scope is limited to one Postgraduate Study programme (PSP). More specifically, they will provide

technical support to PSP instructors by uploading course material (e.g., presentation slides, links to recorded lectures, notes) on the distance learning platform, making various announcements, and posting examination topics. When problems arise which cannot be resolved by Integrated Distance Learning Managers for Postgraduate Study Programmes (PSPs), they may consult the distance platform user manual and request support of the Distance Learning Unit staff.

In addition, the Distance Learning Unit will regularly (i.e. every month) hold seminars with PSP Administrators to discuss platform upgrades.

IT Support and Networks and Communication Service

IT Support and Networks and Communications Service of the Directorate of Facilities Management and IT Support design, implement, and monitor the ICT system of the University administrative functions. They oversee data network documentation, management, and operation.

More specifically, they:

- design, plan, organise, and provide University IT support,
- manage and develop centralised systems and IT support applications of the university services and ensure a proper, reliable, efficient, and secure operation,
- draw up specifications for new electronic equipment procurement,
- provide technical support of University Administration hardware, software, and applications,
- offer information, training, and technical support to users,
- manage data and voice network infrastructure as well as basic and advanced online services,
- design, schedule, upgrade and expand networks, online services, and equipment,
- draw up network and online service documentation and reports,
- design network and online service resource policies,
- monitor network and online service security,
- manage network and online service troubleshooting,
- collaborate and communicate with competent services of other Academic networks.

d) documentation of teaching staff's digital competencies and ICT skills,

in compliance with Article 5 of the University Internal Regulation:

Article 5 - Evaluation and Enhancement of Teaching Staff's Digital Competency for Distance Learning Postgraduate Programmes

The teaching staff are engaged in e-learning training to be capable of using integrated distance learning, which involves a rigorous process adhering to specified quality standards. The role of the teaching staff in distance learning contexts is considerably different from that in conventional face-to-face settings. In distance learning education the teaching staff is engaged in providing guidance by designing customised learning approaches to cater for learners' individual needs, which implies reshaping learning into an active process, during which learners are responsible for their own progress. The teaching staff become mentors and design educational experiences, which requires adeptly leveraging technology aiming at fostering an e-learning community to contribute to supporting learners to overcome geographical and time constraints. The specific training programme is designed to offer the teaching staff fundamental knowledge of distance learning and online contexts.

In detail, the process of enhancing teaching staff's digital distance learning skills for postgraduate study programmes includes:

- *Online Mentoring* by the University of Western Macedonia (UoWM). Seminars are organised by a) the Centre for Teaching and Learning, b) the Distance Learning Unit, and c) the Quality Assurance Unit (QAU).
- *Online Training Seminars* on Moodle, Microsoft Teams, Zoom, Webex, and Learning Management System (LMS).

  The Learning Management System (LMS) is the most significant tool both for students and the teaching staff as it enables interaction and provides access to e-learning course material (digital, multimedia, etc.). LMS facilitates both synchronous (e.g., Zoom) and asynchronous learning (e.g., wikis, discussion forums, quizzes, peer assessment workshops, gamification). In addition, students submit their assignments on the platform and receive grades and feedback.
- *Online Seminars on Turnitin* for the Academic Staff
- *Online Seminars* on Creating Interactive Exercises in Moodle
- *Online Seminars* on Student-Centred Teaching, Learning, and Assessment
- *Online Training Seminars* on 'Open Distance Learning' for the Academic Staff and Educational and Counselling Support staff
- *Online Training Seminars* on Innovative Tools for Teaching Methodology Skills for Academic Staff and Educational and Counselling Support staff

The evaluation process of the teaching staff's digital distance learning skills for postgraduate study programmes involves relevant examinations and certification of the skills acquired during the online seminars.

Digital skills certification for the teaching staff involves:

- A. Experience in undergraduate or postgraduate distance learning education (at least 2 semester courses or 1 annual course), either acquired from the Hellenic Open University (EAP) or from other universities offering distance learning postgraduate study programmes.
- B. Work experience Certificate issued by the University Department Administration services to certify experience in distance learning courses for three academic semesters during the COVID-19 period.
- C. Digital skills proficiency certificate for distance learning education from accredited organisations, Postgraduate study programmes, etc.

Through active participation in seminars, the teaching staff will gain knowledge and develop an understanding of:

1. the methods, models, and techniques used in distance learning education,
2. the design principles for distance learning courses as well as the relevant material,
3. methods to leverage technology,
4. online assessment methods,
5. using Moodle for course material and experience development,
6. using Moodle for assessment.

Teaching and Learning Service

In compliance with modern trends in University Pedagogy, the Teaching and Learning Service provides various support services, empowerment, and continuous improvement of teaching and learning processes to the students' benefit.

Teaching and Learning Service: functions and activities

1. UoWM Teaching and Learning Service organises learning cycles, training programmes, and professional development initiatives focused on integrating digital technology into education, and modern pedagogical practices, and addressing teaching and learning challenges. It also promotes communication, collaboration, and partnerships with academic staff members, laboratories, centres, services, agencies, institutes, and Greece and international universities, engaged in educational practices aimed at exchanging expert knowledge of contemporary educational approaches within the framework of the educational services offered by higher education institutions.

2. Entire learning cycles or specific actions can be carried out via distance learning and delivered elsewhere than the University of Western Macedonia. Office activities focus on:
    - providing support and information to teaching staff members on innovative practices for educating postgraduate students, and sharing modern approaches in Adult Education and University Pedagogy,
    - providing support and information to teaching staff members as regards the use of Educational Technology, in collaboration with UoWM's available multimedia services,
    - offering guidance to teaching staff members to develop practices that encourage student-centred teaching, teamwork, respect for diversity, inclusion, differentiated instruction, and integration of students with disabilities and special learning needs into the educational process,
    - operating a repository to collect and redistribute course material (in print or electronic form) and promote best practices,
    - fostering communication among teaching staff members and organising meetings to exchange views on successful practices or challenges,
    - initiating and fostering collaborations with peer higher education services, institutes, or organisations engaging in similar pursuits in Greece or abroad.
3. The Teaching and Learning Service undertakes or collaborates in further educational activities, such as:
    - organising learning cycles and various activities in collaboration with other national or international scientific, professional, research, or educational bodies and institutions under a relevant cooperation protocol.
    - delivering services, such as projects, innovative course material development about Teaching and Learning in Higher Education, as well as undertaking relevant research projects,
    - organising conferences/seminars, experiential workshops, and various scientific activities (i.e., publishing scientific journals, etc.).

Article 7 - Personal Data Protection Policy for Distance Learning Written or Oral Examinations

The University of Western Macedonia has developed a Data Protection Policy for distance learning written or oral examinations.

Pedagogical framework for designing and implementing distance learning education

Pedagogical Framework for Distance Learning Education

The pedagogical framework for designing, developing, and implementing distance learning programmes/courses was established upon the following considerations:

- geographical origin of prospective students (local and/or European and/or international students),
- contemporary international trends and research developments related to the design and delivery of distance learning programmes, and
- distance learning accreditation specifications of the Hellenic Authority for Higher Education (HAHE).

Pedagogical Framework Axes

The Pedagogical framework comprises the following three major axes:

1. **Guided e-Learning and Course Material -** it includes compulsory or optional learning activities.
2. **Dynamic online interaction**
3. **Assessment**

1st axis: Guided Learning & Course Material

The objectives of guided learning activities include:

- presenting and explaining key course concepts,
- engaging students in studying, reading, watching, or listening to fixed, static, online content, such as e-books, manuals, books, chapters of volumes, research papers in scientific or other journals, multimedia material, open access educational material, course notes, various reading resources. Bibliography should be available via the Online Platform (provided that intellectual property rights are adhered to).
- providing students with course, or digital/multimedia material (in asynchronous courses, teleconferences will be recorded, whereas in synchronous ones, they will not be recorded), digital bibliography, links, open access sources (open access resources, OERs), e-books, videos, etc. Digital/multimedia material may include presentations in various formats:
  - ✓ simple, with course notes,
  - ✓ narrative presentations,
  - ✓ video lessons,
  - ✓ interactive presentations and videos,

- ✓ audio files,
- ✓ simulations,
- ✓ virtual learning environments,
- ✓ interactive educational games,
- ✓ interactive scenarios for problem-solving or multimedia resources for course delivery (i.e., tutorials).

Courses should include content-rich and up-to-date learning material and must be continuously monitored and reviewed.

- Contents

Guided learning course content is classified as 'compulsory', which students must study, or 'supplementary/optional'.

Supplementary/optional bibliography comprises additional reading material recommended for further study, which is not included in module examinations. Students are also expected to engage in further self-study activities (self-study learning).

The specific activities require students to study extra scientific papers including discipline-specific articles or key text, relevant online academic videos, or podcasts, and other available online material.

Course design aims at encouraging and motivating students for self-study.

2nd axis: Dynamic online interaction

Weekly activities of dynamic online interaction will engage students in online discussions and collaborative work, which may not be subject to grading and assessment.

Online interaction activities are designed to provide students with opportunities to discuss, interact, share views, engage in critical thinking, examine understanding of course key concepts, and collaborate on assignments. Weekly Learning Activities (Peer Review) are also included.

Within this framework, the teaching staff deliver online lectures (video and audio sessions) aiming at explaining course content, creating student presentations, and holding discussions. In addition, in teleconferencing sessions, students are engaged in group work and discussions, active learning activities, and experiential learning. Asynchronous online sessions last about 2 hours, whereas synchronous 3 hours. Dynamic online interaction activities also include discussion forums on module topics (e.g., personal views, case study discussions, comments on research articles), group simulation games, interactive problem-solving scenarios, use of online files for group work, wikis for group assignments, and using blogs and/or microblogs (e.g., Twitter) for discussion, argumentation, critical analysis, comments, and feedback.

Instructors are encouraged to use available platform tools (i.e., zoom/Microsoft Teams for webinars, discussion forums, chatrooms, wikis), as well as external tools (i.e., blogs, online documents, wikis). The specific activities enable students to enrich their range of knowledge and join online learning communities.

Teaching Methodology

Educational processes are structured on the flipped classroom model, which involves blended learning, and engage students in learning processes by watching video lectures or other educational material at home, whereas during online sessions, they interact with instructors, discuss, and get answers. In the initial 'before-class' stage, students interact with course material on a digital platform (Moodle) and study at their own pace, in a location and time suited to their own learning preferences. During the 'in-class' stage, in which interaction occurs through group activities facilitated by instructors, students are enabled to evaluate comprehension of course material. In the third 'after class' stage, students have the opportunity to apply and evaluate acquired knowledge and learning outcomes. This involves questionnaire- or project-based practice and assessment on Moodle, which allow students' effective monitoring of self-progress.

Teaching methodology in online environments requires leveraging the potential and methods offered by new educational technologies and modern synchronous and asynchronous communication tools. Thus, comprehensive guidance about the support available from instructors and the use of tools and digital resources during distance learning as well as fostering student engagement in learning processes through effective teaching methods, interaction, and active involvement are vital. Using customised digital interactive multimedia material for distance learning students and ensuring accessibility further enhances the learning experience.

Distance learning education is carried out through i) *asynchronous* and ii) *synchronous* communication.

1. Asynchronous Communication

Asynchronous communication implies communication occurring independently of time constraints, allowing interactions to take place at any time. Establishing reliable and ongoing asynchronous communication and interaction with students in distance learning education is critical, as it facilitates deeper understanding of course content, sharing ideas and views, feedback, and answering questions. Answers to students' questions should be brief and

effective and must be available within 48 hours or sooner, in exceptional circumstances; while this may not always be achievable, it should be an occasional occurrence rather than a regular practice.

Asynchronous communication and interaction are achieved by using chat rooms, discussion forum posting, blogs, e-documents (e.g., Google Docs), wikis, digital interactive whiteboards, email, any other online tool (for development/production of technological artifacts).

Continuous Student Support: Students can also communicate with instructors beyond online sessions to get answers to questions or study-related problems and information on academic performance. In the context of distance learning education, effective asynchronous communication with students is crucial for the success of a programme.

2. Synchronous Communication

Synchronous communication is defined as real-time interaction, during which instructors and students are present at the same time in an online environment. Instructors meet students' needs for synchronous communication and schedule meetings (i.e., zoom), which can also be available for asynchronous learning (recorded lectures).

Synchronous communication involves:

- lectures (concept and content teaching)
- answering students' questions, providing comments, discussion
- sharing ideas/views, etc.

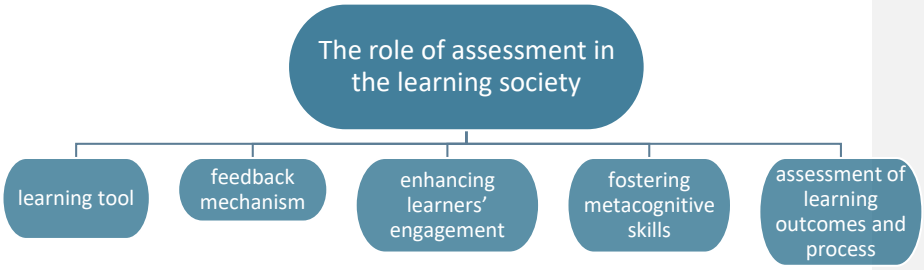
Instructors are required to hold synchronous meetings for at least 9-10 hours on a semester basis. Meeting topic is exclusively designed by instructors, who should inform students about the time of online meeting at the beginning of a semester in the course schedule, and, if this is not possible, it should be announced on the distance learning platform at least one week in advance. In exceptional circumstances, when instructors have to postpone meetings, they must promptly inform students about a rescheduled meeting date and time. In addition to scheduled synchronous communication, instructors are encouraged to schedule extra meetings to provide comments, explanations, and discuss course requirements.

Communication with instructors or programme coordinators: Students can communicate with instructors via email and on the online platform. They can also communicate with peers via email and on Q/A forums.

Distance learning platforms are the most valuable tool both for instructors and enrolled students. Access to such platforms is fundamental to delivering course material/content and is the primary method of modern collaboration and interaction. It facilitates teacher-student, student-student, and student-course material interaction.

Assessment

Assessment in the contemporary learning society has been assigned with an enhanced pedagogical and social role (Fig. 1) and includes the following key aspects:



- **Assessment as a learning tool**: Assessment is considered a valuable and dynamic educational tool both for the teaching staff and learners, as it encompasses and enriches learning processes. Assessment processes are carried out using various methods (i.e., quantitative, and qualitative data collection), depending on learning objectives and content.
- **Assessment as a feedback mechanism**: Assessment results are communicated to learners and are used to their own advantage (e.g., feedback, acquisition of metacognitive skills through learning monitoring and management).
- **Enhancing learners' engagement in the assessment process**: Learners are encouraged to acquire further self-assessment and peer-assessment skills.
- **Fostering metacognitive skills**: Assessment focuses on exploring and evaluating cognitive, metacognitive, social, and communication skills ("What do learners know," "What do they understand," "What are they capable of doing," etc.).
- **Assessment of learning outcomes and process**: Assessment is based on evaluating both learning outcomes and the intricate learning process itself, through sophisticated authentic activities, and considering the special learners' features (e.g., cognitive background, learning style, etc.).

Methods of Assessment

Course assessment methods, and the significance of different assessment methods for calculating final grades, are specified in the syllabus designed by instructors. Courses may include the following formative assessment methods:

- **Self-assessment**
- **Feedback**
- **Final assessment**

Continuous/formative assessment

Continuous/ formative assessment is a feedback-based assessment process used during teaching, aiming to adapt current teaching and learning processes, improve student performance and achieve course objectives. It involves various tests taken at regular intervals during taught courses, designed to monitor student progress and enable students to identify potential weaknesses and errors.

Continuous/formative assessment involves various practices to gather, interpret, and collect evidence of student performance. Assessment methods typically include assignments, quizzes, midterm exams, research reports, simulations, problem-solving learning scenarios, virtual environments, educational interactive games, case studies, role-playing games, online presentations, wiki development, e-portfolios, participation in discussion forums, and other forms of engagement in online learning platforms. The specific assessment format is outlined by instructors in the course syllabus. Notably, continuous/formative assessment can be carried out offline or online.

- **Self-assessment**

Self-assessment is a student-centred approach, which places students at the forefront of the process, encouraging them to actively participate in educational activities.

Self-assessment plays a crucial role in student motivation as it allows sudents to assess their own skills and track their progress. It also helps them identify weaknesses and is used as an incentive for further improvement, especially in combination with direct feedback, which enhances learning outcomes positively. Self-assessment is achieved through accompanying activities and exercises, and is used to enable learners to apply their acquired theoretical knowledge and provide insights into their progress.

Self-assessment aims at enabling students to be aware of and enhance their knowledge and skills, prioritising understanding over grading. This is accomplished through diverse weekly activities, including online quizzes, multiple-choice exercises, essays, and checklists

distributed to students upon completing each week or unit. In addition, it assesses the extent of students' involvement in deeper learning activities and further study.

- **Feedback**

Feedback, a fundamental aspect of assessment, has gained increased attention for enhancing educational processes. Corrective feedback is especially effective when employed after self-assessment, as it strengthens students' focus on assessed details. In addition, it should be delivered in a clear and accessible manner to facilitate students' understanding.

Feedback is also a vital component of practising teaching skills through micro-teaching exercises, during which micro-unit teaching is recorded, and analysed to highlight the positive aspects to be consolidated by students and identify and address potential weaknesses.

- **Final Assessment**

Final assessment, a most common assessment approach in distance learning courses, is based on final exams, the format of which is specified by instructors.

Assessment Activities: Design

For courses exclusively carried out via asynchronous distance learning methods, all assessment activities, despite their role in the educational process (i.e., student self-assessment, practical application of knowledge, final or mid-term course assessment, etc.), should be also carried out via e-assessment methods.

In this framework, instructors can employ assessment tools integrated in various learning management platforms or external applications and services to develop assessment activities.

In entirely asynchronous distance learning education, assessment activities should:

- comply with the relevant learning objectives
- be graded
- provide comprehensive feedback to students
- promote student reflection
- not demotivate students
- foster full coursework management

In addition, instructors should ensure that diverse assessment formats are used to accommodate students' varied needs and learning styles and aim at all students' fair participation and assessment to the greatest extent.

Instructors are responsible for deciding on synchronous and asynchronous activities, relying on the role of each assessment activity in the educational process.

Assessment activities may include:

Activity	Activity type (synchronous / asynchronous)	Workload	Assessment type
A) supervised ONLINE exams - Quiz with open/closed-ended questions	**synchronous**		• Open-ended questions (i.e., essay-type) or closed-ended questions (i.e., multiple choice, matching, true/false, etc.) • Timed examination • Creation and distribution procedure of various exams - quizzes using a question bank • Creation of categories in the question bank (e.g., based on difficulty level, by chapter/section of the book) • Creation of a quiz by shuffling various question categories • Setting exam duration • Shuffling questions • Automated grading system for closed-ended questions. Open-ended Quiz open-book questions requiring critical thinking, are a distance learning version of the traditional 'open book exams' within a limited time (hours), which encourage (rather than discourage) students to use sources. Essay-type questions are not automatically marked, unlike quiz questions, for which marks will automatically appear in the gradebook. Plagiarism check for open-ended questions can be available.
B) Online oral examination using teleconferencing	**synchronous**		Using Zoom or other platforms (Teams, BBB, etc.) • Individual or group • Timed examination (minutes). • Scheduling meetings with students. • Announcement about exam timetable and virtual room. • Connection at the scheduled time. • Checking examinee's identity and using the academic account to join teleconferencing. • Presenting examinee's police or student ID before the examination.

			• Instructors may have visual contact with students during the examination. • Instructors may provide explanations to make students feel more comfortable. • Uninterrupted examiner-examinee visual contact during the examination.
C) Assignment of individual or group projects and presentation via teleconferencing	**synchronous / asynchronous**		• Submission and evaluation of assignments • No supervision required • Plagiarism check is recommended • Longer time required (days) • Files are submitted on Moodle 'Assignment' activity • Scheduled presentations via teleconferencing
D) Online invigilated written examination (NOT recommended)	**synchronous**		• Open-ended questions (i.e., essay-type) • Timed examination (hours) Open-book questions requiring critical thinking are a distance learning version of the traditional 'open book exams' within a limited time (hours), which encourage (rather than discourage) students to use sources. This type could be adopted for subjects requiring handwritten work, diagrams, or complex symbols (in mathematics, physics, engineering courses, etc.) - students can write their answers by hand, scan or photograph them, and submit them on Moodle 'Assignment' activity. Plagiarism check may be available.
E) Combination of the above	**synchronous / asynchronous**		

Assessment Tools

For assessment activities and feedback, instructors can use a variety of tools, either integrated into various learning management platforms or provided externally (free or non-free).

The specific tools typically incorporate feedback features.

Tool	Application- Description	Assessment mode	Method -Technical support (Stogiannis for Moodle)
Moodle - Quiz	It enables instructors to create quizzes containing various types of questions, including multiple-choice, matching, short-answer, and numerical questions. Questions can be shuffled or randomly selected from a question bank. Time limit is possible. Each attempt is automatically marked, except for essay-type questions; marks are recorded in a gradebook. Instructors can choose when and whether hints, feedback, and correct answers are available to students. Quizzes can be used for: • Course examinations • Mini tests for assignment reading or at the end of a topic discussion • Exams practice using previous assessment questions • Providing instant feedback • Self-assessment		Quizzes are created and used via relevant Moodle integrated Quiz activities. In Moodle terms, quizzes imply students' contribution and interaction with other students or instructors.
Moodle - Assignments	'Assignment' activities enable instructors to assign tasks, collect projects, and give marks and feedback. Students can submit any type of files (i.e., word processing documents, spreadsheets, images, audio, video etc.). Alternatively, or additionally, assignments may require students to type text directly on Moodle text editor. Students can submit individual or group assignments. When assignments are assessed, educators can provide feedback comments and upload files (i.e., assignment scores, texts with comments, or recorded oral feedback). Assignments can be assessed on a numeric or custom scale or using an advanced grading method (rubric). Final grades are recorded in a gradebook.		Assignments are carried out on the relevant Moodle integrated activity. In Moodle terms, assignments imply students' contribution and interaction with other students or instructors.
Moodle - Workshop	'Workshop' activities enable peer collection, review, and assessment of student work. Students can submit any type of files, such as documents or spreadsheets, and can also type text directly into a field using the text editor.		Workshop activities are created and used on the relevant Moodle integrated Workshop Activity. In Moodle terms, workshops imply

	Submissions are assessed using a multi-criteria assessment form as specified by instructors. Students have the opportunity to assess one or more peer work. Work and assessments can be anonymous if required. Students receive two marks for workshop activities - one for their work and one for their assessment. Both marks are recorded in a gradebook.		students' contribution and interaction with other students or instructors.
Moodle - Gamification	'Gamification' involves using gaming processes in non-game situations. It includes the use of gaming features (questions, quizzes, leaderboards, point systems, levels, badges, etc.), in non-gaming activities. Games include: * hangman * crossword * cryptex * millionaire * sudoku * Snakes and Ladders * The hidden picture * Book with questions		Gamification Activities are created using Moodle tools and plugins. Typically, they are uploaded or downloaded via an H5P package and offered on the relevant Moodle integrated activity.
Moodle - H5P Activity	H5P is the abbreviation for HTML5 Packages—interactive content, such as questions, quizzes, multimedia, games, etc. Any attempt is automatically marked; marks are recorded in a gradebook.		H5P is uploaded / downloaded and offered on the relevant Moodle integrated activity. H5P content can be added either in the H5P content bank, h5p.com, or using Lumi.
Safe Exam Browser (SEB)	The use of Safe Exam Browser (SEB) allows for more reliable online examinations in a controlled and secure environment using quizzes.		SEB is a Moodle integrated add-on applied to examinations using Quiz. When SEB Quiz is applied, students enter a different, controlled, and secure environment in which only exam content can be viewed. Access to any website, application, and resources/materials on the student's personal computer is prevented to ensure valid online examinations on Moodle. **Due to multiple configurations and, in**

			particular, user's device incompatibilities, it is recommended that SEB not be used for non-University services. Examinations may be carried out in university laboratories or using the University portable devices.
Proctoring	Proctoring involves monitoring and supervising online examinations and assessments using technologies like facial recognition, eye tracking, and sound analysis. It helps prevent cheating and ensure fair assessment of students' knowledge and skills. **Data protection regulations and code of ethics must be strictly adhered to**.		Large-scale on-demand exam proctoring services are implemented by outsourcing (subscription fees required), by employing advanced algorithms, machine learning, and artificial intelligence. Video-recorded proctoring captures the entire exam session, including monitor display, audio, and the student's webcam feed, and is used for inspection by authorised competent staff. Recorded monitoring can be analysed post-exam to detect irregularities or instances of cheating. It is a deterrent means as students are aware that they are monitored; however, it does not involve real-time intervention or immediate feedback during examinations.
Zoom	Zoom, developed by Zoom Video Communications, is one of the world's most popular video conferencing platforms. Users can engage in video calls and participate in group calls with up to 1,000 people simultaneously, without any time limit in subscription editions.		Zoom supports the creation of a virtual classroom environment, facilitating real-time visual and audio communication using recommended equipment (i.e., computers, cameras, microphones, speakers, headphones, high-speed networking, and video

			conferencing software). This setup enables instructors and students to engage in voice and visual communication from different locations. More specifically, instructors and students can: • share applications and documents • use a virtual whiteboard • communicate with written messages • access chat rooms for collaboration, interaction, sharing views, and carrying out tasks, by breaking out into smaller groups in different rooms within the same virtual classroom (breakout rooms).
Questionnaires	Creating and sending questionnaires to students, apart from surveys, they can also be used to create exercises. Available question formats include: • Multiple choice with a single answer • Multiple choice with multiple answers • Essay • Scale (e.g., 1-10)	Mainly postdated as specified by instructors. The platform offers the option to display the results to students.	Questionnaires are created on the relevant Moodle integrated Activity. 'Feedback' activities enable instructors to create customised feedback surveys using a variety of question types (i.e., multiple-choice, yes/no, or text entry questions).

Instructors also have access to various services and tools to create relevant activities. Their active role in using web-based assessment tools is critical. Assessment material designed for face-to-face educational processes should also be adapted to distance learning formats.

Self-assessment exercise design and implementation are crucial and require instructors' systematic work in three significant stages:

1. setting the goals to be achieved,
2. selecting the type and content of exercises,
3. formulating feedback.

Instructors can also employ a series of question-based criteria to assess the extent to which key points have been incorporated into the activities they have designed:

1. Is the language used friendly?
2. Is the wording clear and easy to understand?
3. Does it focus on a specific topic without assuming prior knowledge and considering other aspects?
4. Does it engage learners emotionally or challenge them to foster personal interest in the subject (especially for motivation tests)?
5. Does it provide clear instructions on what the learner should do to answer?
6. Is the purpose of the test clearly explained?
7. Are learners given guidance on how to answer successfully?
8. Are learners informed about the expected length of responses to open-ended questions?
9. Are learners informed about the time required to respond to open-ended questions?
10. Are correct or sample answers provided?
11. Are the most common mistakes highlighted?
12. Are the reasons for these common mistakes explained?
13. Are correct answers and solutions acknowledged or rewarded?
14. Are learners encouraged to focus on specific points of the text?
15. Are test responses connected to additional sources for further study?