UNIVERSITETI I EVROPËS JUGLINDORE
УНИВЕРЗИТЕТ НА ЈУГОИСТОЧНА ЕВРОПА
SOUTH EAST EUROPEAN UNIVERSITY

Study program	Media Informatics
Faculty	Contemporary Sciences and Technologies
Study Cycle	First Cycle (Undergraduate)
ECTS	180

Description of the program

The undergraduate studies in Media Informatics provides students with understanding and knowledge from the field of Computer Sciences, specifically focused in the field of Communication Sciences and Media, while directing them towards certain areas that will be further specialized in the second cycle of studies. The three-year curriculum will provide students with opportunities for internship, which will enable them to apply the acquired knowledge and skills in the field of Media Informatics.

The University currently possesses a remarkable IT –infrastructure for the realization of the suggested *curriculum* in the field of Media Informatics, with computer laboratories, Internet connection and the option of Distance Learning, as well as a library with online resources available for searching.

The curriculum structure aims for balanced combination of the basic knowledge and specific professional skills. The first year is important for students as it merges a whole range of interdisciplinary courses with practical implementation in the two fields, Media and Informatics. This will be of considerable benefit to their professional development.

Career

With the Media Informatics academic programme at the South-East European University, graduates will find employment in specific needs and trends of various media trends that meet current and future market needs to work in certain fields such as electronic media, media production, web media, and communication media etc. The study program also includes the development of multimedia technologies and projects, IT applications for media, media production, web applications for media, media networks, etc.

Students will be equipped with the following skills:

- To create and present media information
- To analyze, plan and develop IT solutions which support the creation and publication of media.
- To plan the required media information, its analysis and creation using appropriate tools.
- To develop skillfulness, to contribute in the decision making, design and implementation of the changes in the media creation process.

Learning outcomes

Knowledge and understanding

- Possession of knowledge and understanding in the field of Communication Sciences and Informatics (Mass Media, Media Production, Web Technologies, Multimedia and Multimedia Applications, Programming, Computer and

Information Systems) proportionally expanded in relation to the first study cycle.
- Ability for development and application of original and creative ideas within the environment where fields of Media Informatics are interconnected.
- Ability to apply interdisciplinary knowledge and demonstrate specialist competences in the field of Media Informatics.

Applying knowledge and understanding

- Able to critically, independently and creatively solve problems in new, unseen or unfamiliar environments within the multidisciplinary context of real business or organizational environment. To plan, lead and evaluate independent researches in the field of Mass Media, implementing appropriate computing tools, environments and technologies.
- Creativity and originality in interpretation of knowledge of Media processes as well as appropriate usage of computing tools and environments based on well defined research and testing techniques.

Making judgement

- Ability to creatively integrate and synthesize knowledge across several areas related to media processes and using appropriate computing tools and techniques.
- Ability to deal with complex issues related to media processes, to address appropriate specialized instances both in media and informatics fields, make sound judgments in situations with a lack of complete information or data based on personal, social and ethical principles and responsibilities and related to the application of the knowledge and understanding.

Communication skills

- Ability to clearly and unequivocally communicate conclusions, results, study outcomes and knowledge to both specialist audiences from the media and informatics fields along with the ability to adapt the style and form of expression to non-specialist audience.
- Competence for critical, independent, and creative argumented research, evaluation of methodologies, and proposing and defending new hypotheses.
- Demonstrate ability for initiating, leading and taking responsibility for the work of individuals and groups in cases where communications (media) and informatics competences are crucial.

Learning skills

- Able to identify personal needs and directions for individual and autonomous study, and to perform it in self-directed and autonomous manner in the communication and informatics field.
- Able to take responsibility for continuous individual learning in specialized media and informatics fields within the networked economy.

List of courses

Semester 1

- [6.0 ECTS] **Calculus and Linear Algebra**
- [6.0 ECTS] **Computer Applications in Communications**
- [6.0 ECTS] **Introduction to Communication Sciences**
- [6.0 ECTS] **Free elective course 1**
- [3.0 ECTS] **Elective course in Albanian/Macedonian language 1**
- [3.0 ECTS] **Electve course in English language 1**

Semester 2

- [6.0 ECTS] **Social Media and Media Information Systems**
- [6.0 ECTS] **Multimedia Systems and Applications**
- [6.0 ECTS] **Introduction to Media Studies**
- [6.0 ECTS] **Free elective course 2**

- [3.0 ECTS] **Electve course in English language 2**
- [3.0 ECTS] **Elective course in Albanian/Macedonian language 2**

Semester 3

- [6.0 ECTS] **Media and Society**
- [6.0 ECTS] **Web Technologies**
- [6.0 ECTS] **Applied Probability and Statistics**
- [6.0 ECTS] **Free elective course 3**
- [6.0 ECTS] **Elective course English for Special Purposes 1**

Semester 4

- [6.0 ECTS] **Basics of Programming**
- [6.0 ECTS] **Media Writing and Reporting**
- [6.0 ECTS] **Political Communication**
- [6.0 ECTS] **Elective course English for Special Purposes 2**
- [6.0 ECTS] **Elective course 4**

Semester 5

- [6.0 ECTS] **Theories of Communication**
- [6.0 ECTS] **Multimedia Programming**
- [6.0 ECTS] **Information System Management**
- [6.0 ECTS] **Elective course 5.2**
- [6.0 ECTS] **Elective course 5.1**

Semester 6

- [6.0 ECTS] **Media production and co-production**
- [6.0 ECTS] **Web Engineering**
- [6.0 ECTS] **International Communication**
- [6.0 ECTS] **Capstone Project**
- [6.0 ECTS] **Elective course 6**

Description of courses

Core courses

- **Calculus and Linear Algebra**
  The main goal of this course is to provide students with practical knowledge of basic calculus concepts. Students will start with learning functions as a basic concept in calculus, through the definition of different functions through different numerical sets. The functions are given in different forms (tabular, diagrams, analytical, graphical etc). Afterwards, students will learn to calculate limits, derivatives, differential and integrals of numerical functions, including practical application in sciences. Finally, students will learn about some concepts of the linear algebra theory.

- **Computer Applications in Communications**
  This course attempts to go beyond “how computers work” to how we work with the computers and related technologies and the social context in which the technologies are used or misused. Presumably, this would be a coveted course for everyone, for it deals with the real challenges that the discipline is trying to solve and emphasizes the interface between the computer science, informatics practices and the society at large. It deals with the social issues related to the unprecedented expansion of ICT and touches on many dimensions that go beyond “programming” a machine. It fosters the development of problem solving and, equally or possibly more important, problem formulating skills. It reduces the importance of technology and underscores the need for learning skills to manipulate the technology. It focuses on some of the real problems that come up with the expansion of the technology security, piracy and digital identity. Above all, the course addresses as much on the excitement as on the limitations of the new information technology.

- **Introduction to Communication Sciences**
  After completing the mandatory this mandatory course, students will be expected to be able to handle simple conversations, being able to apply knowledge about Shenonovata and Viverovata scheme to master the basics of linguistic models of communication. Also, students will be expected to be able to independently use this knowledge to further their needs, but also as a basis for improving it.

- **Social Media and Media Information Systems**
  This course will combine theory and practice to help students develop their understanding of the many changes rocking the media landscape and build the skills students will need to join the fray. Social media is altering how journalists and public relations professionals do their jobs and how we communicate in a Web 2.0 world. Students will read research and theory by some of the most formative thinkers in our field examining the impact of social and new media and applying these core concepts to your real-world use of digital tools. We will be actively using blogs, RSS feeds, Twitter, widgets, social bookmarking, mapping, and other Web 2.0 tools to produce and curate content and interact with other professionals in our field and reflecting critically on this experience.

- **Multimedia Systems and Applications**
  Students will learn and completely master the concepts such as: W3C technologies as XML, SVG, SMIL, KML and MPEG. Server-side programming through PHP for dynamic generation of XML-based multimedia objects, social computing, web technologies 2.0, data remixing and web services, architecture and design of multimedia systems.

- **Introduction to Media Studies**
  The course defines, clarifies and defines the role, functions, characteristics and types of media especially through examples from practice. Besides the traditional media will be treated and new on-line media with specific features and multimedijalnosta the Internet and interactivity of social networks. Objectives of the case are: * To introduce students to the basic functions of media and means of mass communication, * To become familiar with their influence and importance in society * To introduce the journalistic profession, * The functions and types of journalism and journalistic products.

- **Media and Society**
  Media and Society presents an introduction to students in the discipline which studies the complex relationship between media and society, the role of mass media as a mediating technology for mass and global communication. The specific objective of the matter is political, economic, social and cultural implications of media on society.

- **Web Technologies**
  The course objective is for the student to acquire a comprehensive understanding of multiple tools and methodologies for solving problems regarding web technologies, and creating effective web pages. Although specific tools such as HTML and Visual Studio (ASP.NET) will be used, our primary focus will be the techniques for problem solving and gathering information that will outlive any particular programming language. Lectures will focus on general concepts and syntax, while exercises will focus on implementation and practice.

- **Applied Probability and Statistics**
  The course objective is to provide students with the required knowledge of probabilities and statistics that have direct application in computer sciences. The goal is to learn about the processing of statistical data, their rules and presentation, and the laws for appropriate conclusions based on processed data. Furthermore, the students will learn about basic principles of probability and their application in different areas of everyday life, especially in the field of computer science.

- **Basics of Programming**
  This is a subject which presents the basic concepts of programming which further serve as an introduction to structured programming. The intent is to teach students to write clear and efficient C + + programs employing a wide range of programming techniques, with special emphasis on examples of communications and computer sciences.

- **Media Writing and Reporting**
  This course is intended to enhance practical skills of students for journalistic writing and reporting in print and electronic media. This course will give students practical guidance on the basic techniques of media writing. Students will be able to write to newspapers, radio and television. Also students will focus on how to collect, verify, organize and present news to the public.

- **Political Communication**
  Political Communication aims to study, explain and analyze political communication, which has a history of when a political community, but does not deal with the historical side, wanting to keep the modern times and the political actuality. The subject also has to do with problems of public opinion, but rather focuses on the nature of the relationship between politicians and the media. After completion, the student will be able to understand and implement views on the political establishment and communication and how the appropriation of ideas and attitudes. They should understand the danger of the psychology of the masses and their etymology, using examples from recent to distant past.

- **Theories of Communication**
  After completing theory communication 1, students are expected to reach the appropriate knowledge and advanced in the field of psychological models of communication. In addition, students are expected to become more autonomous in the study of these models and take responsibility for their learning. After the theory of communication 1, students will be able to develop and devise examples of Freudian models, theory of anxiety, and behavior and will be able to reflect critically on diverse topics and themselves to make conclusions based on written text as an ability to acquire advanced written and oral communication in the field of various psychological theories of communication.

- **Multimedia Programming**
  Students will learn and master the concepts from the field of Multimedia Programming, such as: creating and programming interactive presentations using various XML languages such as SMIL, using tools for audio manipulation, sampling, enveloping, bit-depth audio. Basic concepts of raster graphic: layers, filters, roads, etc. Concepts of vector graphics and using tools for 2D and 3D vector graphics, computer modeling and animation including the incorporation of multimedia animation in web environments.

- **Information System Management**
  Education in information technology is critical for every business professional in every discipline. Today, information technology is used extensively in business to acquire, develop and communicate information, and, to assist managers with every decision they make. Regardless of a student's future occupation, he/she will need to understand the potential and limitation of information technology and be able to use it effectively in their work. This course will educate students in contemporary business information systems, modern computer tools, and what it means to act responsibly within current business environments.

- **Media production and co-production**
  The aim of this course is to introduce students--via computer technology--to the techniques, organization and structure of such media as newspapers, radio and TV. Students will gain knowledge and skills in the production and broadcasting of radio and TV shows, documentaries and media clips from different topics and genres, radio and TV editing, and the creation of a virtual news station. Practical knowledge will be applied in the creation of radio and TV programs and students will think critically when determining appropriate strategies, from the production to the distribution of media items.

- **Web Engineering**
  Upon completing of this course, students will be able to: * Analyse the process of developing software solutions and to express the essence concisely and accurately; * Design structure of a module for problem solving, as well as to evaluate the alternatives; * Program and implement software module for efficient and correct performance; * Work in small teams, cooperate in various aspects of software development, and exchange ideas in software project management in a constructive and organized way; * Value developmental skills and methodological issues in software development, such as the importance of customer feedback, work with limited resources, sustainability, testing, and managing of the software development team.

- **International Communication**
  Students will be able to define international communication and to identify and explain European media space and European media culture. Knowledge and understanding will be applied in the preparation of national and European audio visual policies and regulations. They will also assess certain communication situations on the basis of applied European standards and criteria in communication content. Critical thinking about the structure of European communication systems will be encouraged by analytical and comparative tasks.

Elective courses

- **E-Commerce**
  Course objectives: * Understanding and application of concepts of electronic commerce – electronic business. Identification of business needs for adaptation of constant and continuous changes in the field and the importance of incorporation of Information Technology in the most important business processes. Improvement of their current operational efficiency to transform into a competitive advantage. Developing strategic, administrative and operational planning for new businesses or improving current planning with their technology. * To explain: the growth of e-business to date, the term business consumer and the business-business model; using relevant business, managerial and social sciences theories. * To examine the interaction between technological trends and social business-context of e-business, including the diffusion of Social Networks and the Web 2.0 developments.

- **Organizational Communication**
  The subject offers the opportunity to learn the capabilities of the organizational setting in the workplace. The course focuses on theories of funkicioniranjeto organization within the communication process. Konkretono four theories offered to students for discussion, the latest references to this part of the sciences, which offer a wide practical application.

- **Data Mining**
  * The goal is for students to become acquainted with the possibilities that data mining algorithms offer as well as their mathematical implementation for finding hidden, but important and understandable knowledge. * To learn algorithms through the use of probability in order to generate pseudo-codes for data mining. * To learn classification and clustering algorithms as well as their implementation. * To master the basic visualization methods generating from data mining. * Learn future directions for developing algorithms for analysis, data mining and storage. * To enable students to work on individual as well as group projects, which by their nature can be: research projects, development projects or practical work.

- **Negotiations**
  The course offers an opportunity to learn the techniques of negotiation, recognition of unfair tactics in order to create mutual beneficial situations. The course focuses on negotiation theory with its practical application. Emphasis is on body language, personality types, regional and international differences, and the hidden meaning of words.

- **Principles and Practices of Interviewing**
  This course introduces the student to basic principles and practices of interviewing as a separate and vashen journalistic genre. The student will be familiar with basic principles of conducting an interview in written and electronic media, and will compare the advantages of interviews in various media. The course aims to familiarize students with practice interviews as well as the specific activity of journalism and particularly well known and applied in the sphere of politics and diplomacy. We will analyze and practically realize informative and analytical interviews, and combined interview (interview - portrait and interview report).

- **Intercultural Communication**
  After the subject Intercultural Communication students will understand how communication processes differ between cultures. They also can identify challenges arising from these differences in intercultural interactions and be aware of ways in which creative can address these differences. After completing this course students will acquire knowledge, skills and attitudes that will increase cross-cultural competence.

- **Web Programming**
  The purpose of this course is to familiarize students with the problems of web development and understand Web object-oriented programming techniques and technologies. * Have an understanding of a range of different techniques and programming languages that are available to organizations and companies and have the opportunity to choose an appropriate architecture for web application. * To be able to demonstrate ability to design and implement web development. * To be able to make informed and critical decisions regarding web development * To be able to design and implement reasonably sophisticated web applications using one or more suitable technologies. * To have the knowledge to critically analyze and evaluate web applications. * To have a critical and systematic understanding of web protocols * Be familiar with multiple technologies for web development and the syntax of scripting languages as well as learn to pay attention to code clarity and documentation * To gain skills in designing software solutions form problems from various application areas.

- **Business and Professional Communication**
  Introduction to the curriculum of the subject, an introduction to the themes of business and professional communication and culture. Theoretical approaches in studies on business and professional communication, research on how theories explain communication phenomena in business culture. Planning business correspondence. Write business correspondence, business letters, memos, requests, offers, responses to requests. Processes of information, persuasion, leadership, social-business communication in organizations. Improving service providers, communication and contact with customers and adapt and respond to the request of customers. Business presentations. Presentations for sales and marketing. Strategies and tactics of persuasion in business and professional communication.

- **Genres of Journalism**
  Record Newspaper genres focus on the theoretical treatment and practical implementation of information and analytical genres in written and electronic media. We will treat the genre as a historical and theoretical category, global classification of genres and stylistic aspects of the genres. Students through the teaching of journalistic genres will be ready to enter the working process to cover current events daily-news report and other genres.

- **Media rights and regulation**
  The subject aims to familiarize students with the conditions, processes and perspectives of media institutions, their policies and regulations. Students will gain knowledge and skills to create rules and regulations for professional functioning of the media, making an assessment of certain aspects, problems and issues of media law and its abuse in media practice and apply in the preparation of legislation in the functioning of regulatory bodies and their approximation with the European media law.