

MASTER OF SCIENCE IN COMPUTER ENGINEERING AND INFORMATION TECHNOLOGY

“COMPUTER ENGINEERING AND BIG DATA” PROFILE

Short Description:

The study program Master of Science in “Computer Engineering and Information Technology”, Profile “Computer Engineering and Big Data”, provides graduates with in-depth theoretical knowledge, as well as training for scientific research in a particular area. This study program is designed to prepare students in accordance with the technical requirements of the telecommunications industry, financial institutions and post-graduate master studies in Computer Engineering or other related fields. The basis of the program is focused on building critical thinking in order for professionals to take proper decisions.

“Computer Engineering and Big Data” Profile is a very selective program for students with a strong background in mathematics, computer science and applied statistics. The program is focused on new methods of development of the data science as a new discipline to meet the need for professionals. In completing this program, the student should be able to learn the analytical bases and science data flow, develop competence in JAVA language program and collect and have access from different data sources including traditional relational databases, NoSQL database and other web based sources. Potential students also gain basic computer engineering practices and understand how to enable reproductive and scalable data analysis as well as investigate the resources needed for a project of scientific data.

Access Requirement(s):

Students holding a Diploma of the first cycle of studies (Bachelor) or an equivalent degree, recognized by the Ministry of Education and Sports.

To meet the English language criteria according to the paragraph 4 of the Article 76 of the Law No. 80/2015 "For the Higher Education and Scientific Research in the Republic of Albania" and the Guideline No. 52 dated 03.12.2015 of the Ministry of Education and Sport.

Typical Career Opportunities:

- Data analysis professional/officer
- Information professional/analyst responsible for the statistical analysis
- Web data professional/analyst
- Marketing data professional/analyst
- External consultant
- Systems developer
- Researcher in Financial institutions or Operational Researcher

I Year				
Term	Course Title	Prerequisite (s)	Credits	ECTS Credits
Fall	User Interface Design		3	6
Fall	Advanced Research Methods		3	6
Fall	Database Design and Administration		3	6
Fall	Advanced Java Programming		3	6
Fall	Network Programming		3	6
Spring	Foundations of Data Analytics and Data Science		3	6
Spring	Data Analysis I: Statistics		3	6
Spring	Data Analysis II: Machine Learning		3	6
Spring	Advanced Data Mining		3	6
Spring	Web Engineering		3	6
TOTAL			30	60

II Year				
Term	Course Title	Prerequisite (s)	Credits	ECTS Credits
Fall	Advanced Project Management		3	6
Fall	Advanced Digital Design with Verilog and FPGA		3	6
Fall	Pattern Recognition		3	6
Fall	<i>Electives 1 out of 3:</i> - Software Engineering for Data - Data Visualization - Discrete Event and Systems Simulations Methodology		3	6
TOTAL			12	24

Internship		6	12
Thesis		12	24
TOTAL		18	36
TOTAL of the Degree		60	120