



SCHOOL OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY



AD DESTINATUM PERSEQUOR

Who we are

The School of Computer Science and Information Technology at University American College Skopje is the leading institution in North Macedonia in advanced computer sciences, offering active teaching, as well as collaborative and research activities in the wide area of computer sciences, including software engineering, management information systems, computer networks and cybersecurity.

Founded in 2006, UACS SCSIT is focused on delivering excellence in education to all students and introducing them to the local and international IT business world, equally dedicated to offer unique, well thought of and well managed programs for full-time and part-time studies.

Besides the research and the collaborative activities, the SCSIT academic activities are supported by a remarkable IT cluster of companies and businesses, members of the Business Council of UACS, contributing significantly to the overall outstanding quality of programs. The students have direct access to this valuable network through a program of internships, as well as through exchange programs.



The undergraduate and graduate courses at UACS SCSIT are delivered by distinguished and carefully chosen academic staff as well as professionals from the IT business community, providing high-quality education and world-class state-of-the-art professional experience. Strongly dedicated to research and innovation, the UACS SCSIT faculty and students have published a number of scientific and research papers as part of international conferences and journals with impact factors, have actively participated in professional associations and have also been a part of numerous IT related activities on high national and international levels.

Our alumni are in esteemed positions in the IT industry and continue to disseminate and build upon the knowledge acquired at UACS SCSIT. This also includes granted scholarship awards, master degrees awards (e.g. in Australia and Norway), as well as a doctoral PHD degree awards (e.g. Germany).

Management of Information Systems, one of our study programs concentrations, is accredited by the Accreditation Council for Business Schools and Programs – ACBSP from USA, unique in the country. This accreditation ensures that the UACS SCSIT degree is recognized and approved in the USA, Europe and Australia.

Giving Back to Community

Our programs also nurture social responsibility in students, inviting them to respect the community they live in and contribute as responsible members of society. Through a variety of elective courses, the students are able to widen their horizons in an interdisciplinary setting, gain valuable experiences and take advantage of the networking opportunities.

UACS SCSIT organizes and leads plenty of socially responsible events and projects, and hosts distinguished lectures from the industry in the framework of UACS TALKS, under the title of "Ideas, Insights and Innovations in IT and Education".

Business Council

The UACS Business Council is composed of numerous leading local and international companies, among which are some of the most important in the ICT sector - the IT Cluster of companies and organizations. These professionals provide advice and support SCSIT in following industry trends, curriculum development, and internship opportunities.

They also provide valuable insights into the latest technologies and emerging trends, in order to help adjust the curricula to the needs of the real IT sector, ensuring that our students are well-prepared for the job market upon graduation.

Additionally, the UACS Business Council facilitates connections between SCSIT and local businesses and industries, which leads to valuable internship and job opportunities for students, helping them gain real-world experience and make connections in the IT field, which can be invaluable as they begin their careers.

Employment Possibilities

Our students have a very high employment rate after graduation. They are in continuous demand in the local ICT sector and beyond. SCSIT graduates land fulfilling jobs in various fields such as software engineering, data science, cybersecurity and artificial intelligence. By opting for our School for Computer Sciences and Information Technology, the students open a possibility for commitment towards a challenging path to success.

Following in the footsteps of our accomplished alumni, it might be a life-changing educational journey that would lay the foundation for a prosperous and rewarding career, with possibilities to leave your imprint in the ICT industry.

Our Faculty

Our faculty is comprised of highly talented academic staff that are actively pursuing remarkable university careers, senior professors with excellence in their academic careers, as well as IT professionals with recognized expertise in the IT industry. Our competitive advantage is in promoting staff that have gained at least some of the educational and professional experience in European countries and USA.

We are actively participating in building bridges of collaboration with international institutions, businesses and organizations with special emphasis on fields based on, or related to, the IT industry. Apart from their teaching and research activities, some of UACS SCSIT teaching faculty also hold managerial positions in leading IT companies in North Macedonia and beyond.

Our Academic Program

The School of Computer Science and Information Technology offers ambitious and innovative study programs, based on the best academic practices in the USA and Europe, covering the latest technologies and teaching approaches. We are preparing the students for building a successful career in leading IT companies and other businesses and organizations, and for the possibility to continue their studies or start their own IT business. The SCSIT accompanies the students towards becoming professionals through valuable linkages, internship programs and international exchange.



Our Teaching Philosophy

At UACS SCSIT, the teaching process is organized on a one day-one course principle, focused on students directly. The students work in small groups of up to 35 students for excathedra lectures, and up to 25 students for lectures or exercises in computer laboratories. Students use a modern Course Management System, an online learning platform that provides 24/7 access to teaching materials, lectures, presentations, templates for projects, as well as continuous contact and interaction with the teaching staff.

The lectures are in English, using contemporary textbooks and teaching materials. UACS SCSIT Faculty uses various teaching methods, as well as case studies and practical applications, providing opportunities for students to apply their knowledge into real-world scenarios. The curriculum is designed to stimulate individual and team work, as well as foster development of soft skills. We create an environment where students feel welcomed, valued and supported, tending to empower them to take ownership of their learning: by asking questions and actively engaging in the classroom as well as in their hands-on activities (homework, projects, etc).

All students' activities are carefully graded by the teaching staff and constructive feedback is provided. We also incorporate current industry trends and best practices into our teaching, ensuring students to be equipped with competitive skills and knowledge. The SCSIT faculty and staff encourages students to think critically and develop their analytical and problem-solving skills, and additionally incorporates ethical considerations into their decisionmaking processes. Our high performance in teaching requires students to keep an open mind and think outside the box.

We stimulate them to adopt a growth mindset and embrace opportunities for continuous learning and professional development. We also encourage students to take risks, insisting on a constructive problem solving approach that is essential for learning and imperative for personal growth. Providing a variety of elective courses, we believe that each SCSIT student will find their way through the studies towards professional life, and will be able to build a successful career based on their strengths and interests.





Titles and Degrees upon Graduation

Upon completion of the three-year **undergraduate** study program (180 ECTS credits), the students earn the degree of:

- Bachelor of Science in Computer Sciences*
- Bachelor of Science in Computer Sciences Concentration Management Information Systems*

Upon completion of the **graduate** study program, in line with previous university level accomplished for a total of 300 ECTS, the students earn the degree of:

- Master of Science in Computer Sciences (60 ECTS one year) *
- Master of Science in Computer Sciences, Concentration in Software Engineering (120 ECTS two years) *
- Master of Science in Computer Sciences, Concentration in Management Information Systems and Technologies (120 ECTS two years) *

Tenured Faculty

Vladimir Radevski, PhD – Université Paris 13, France alumnus Adrijan Bozinovski, PhD – Pioneer in CNV robot control: Mensa Macedonia president 2014-17 Zoran Utkovski, PhD – Leading research at Fraunhofer HHI, Berlin, Germany Irena Stojmenovska, PhD – Extensive International Academic Experience Marija Andova, PhD Marija Stonojeska, PhD – Board Managerial Experience: FITD registries expert Hari Lokvenec, PhD – Scientific associate

Adjunct Professors

Goce Gavrilov, PhD – Clearing House – Clearing Interbank: Systems AD Skopje Ognen Firfov, PhD – Various leading positions at Telekom MK Ivan Petrov, PhD – Telekom MK Simon Bojadzievski, PhD – A1 MK

Visiting and Exchange Professors

Dejan Mitov – Chief futurist and ZiGnotch, Babylon Solutions Lazar Kocovski – Integration Lead Developer in TiBO technologies Igor Jancev, MSc – Technical Manager at Operations Center, SEAVUS Bogdan Jeliskoski, MSc – Expert in Computer Network and Security, Senior Linux Infrastructure Engineer, Netcetera Monika Arsenovska, MCs – DevOps Engineer Expert, .NET Technology Stack Expert and Team Lead at Scalefocus Natasha Anastasova-Bojadzievska, MSc – Asseco SEE MK, Business unit manager CASD, DS

Computer Science

| Year1 | | |
|-------|--|----|
| Со | Courses: | |
| 1 | Fundamentals of Programming | 6 |
| 2 | Mathematics | 6 |
| 3 | Computer Systems | 6 |
| 4 | Introduction to Computing and Algorithms | 6 |
| 5 | Elective Course | 6 |
| 6 | Object Programming | 6 |
| 7 | Calculus | 6 |
| 8 | Elective Course | 6 |
| 9 | Elective Course | 6 |
| 10 | Macedonian Language | 2 |
| 11 | Internship | 4 |
| Tot | tal ECTS | 60 |

| Yearı | |
|---|---|
| Elective courses, 3 of the following: | |
| Computer Applications 1 | 6 |
| Computer Applications 2 | 6 |
| Computer Ethics and Responsibility | 6 |
| English for Specific Purposes ESP | 6 |
| Contemporary World Language – Italian 1-4 | 6 |
| Academic Writing | 6 |
| Introduction to Management | 6 |
| Contemporary World Language – German 1-4 | 6 |
| Introduction to Multimedia | 6 |
| Business Module 1 | 6 |

Computer Science

| Year 2 | | |
|--------|---|------|
| Со | urses: | ECTS |
| 1 | Programming Languages | 6 |
| 2 | Data Structures and Algorithms | 6 |
| 3 | Computer Networks | 6 |
| 4 | Operating Systems | 6 |
| 5 | Elective Course | 6 |
| 6 | Software Engineering | 6 |
| 7 | Human Computer Interface Programming | 6 |
| 8 | Databases 1 | 6 |
| 9 | Discrete Mathematics and its Applications | 6 |
| 10 | Elective Course | 6 |
| To | tal ECTS | 60 |

| Year 2 | |
|--|---|
| Elective courses, 2 of the following: | |
| Advanced Calculus | 6 |
| Probability and Statistics | 6 |
| Global Understanding and Intercultural Communication | 6 |
| Systems Software | 6 |
| Network Technologies and Administration | 6 |
| Business Module 2 | 6 |
| Computer Graphics and Animation | 6 |
| E-Business and Innovation | 6 |
| Introduction to Data Science | 6 |

Computer Science

| Ye | Year 3 | | |
|----------|--|------|--|
| Courses: | | ECTS | |
| 1 | Architecture and Design of Software Systems | 6 | |
| 2 | Internet Programming | 6 | |
| | Introduction to Virtualization and Container | | |
| 3 | Systems | 6 | |
| 4 | Elective Course | 6 | |
| 5 | Elective Course | 6 | |
| 6 | Internet Services | 6 | |
| 7 | Introduction to Artificial Intelligence | 6 | |
| 8 | Elective Course | 6 | |
| 9 | Elective Course | 6 | |
| 10 | Graduation Thesis/ Capstone Project | 4 | |
| 11 | Internship | 2 | |
| To | tal ECTS | 60 | |

| Year 3 | |
|---|---|
| Elective courses, 4 of the following: | |
| Multimedia Systems and Technologies | 6 |
| Databases 2 | 6 |
| Entrepreneurship | 6 |
| Introduction to Machine Learning | 6 |
| Mobile Application Development | 6 |
| Business Module 3 | 6 |
| Software Quality and Testing | 6 |
| Fundamentals of Software Security | 6 |
| Theory of Computation, Formal Languages and | |
| Automata | 6 |
| Software Development | 6 |
| Introduction to Robotics | 6 |
| Introduction to Bioinformatics | 6 |
| Data Security | 6 |
| Information Systems | 6 |
| Universal Algebra | 6 |
| Macedonian as a Foreign Language 1-4 | 6 |
| Distributed Databases | 6 |

| | - · · | |
|-------|--|------|
| Yearı | | |
| Со | urses: | ECTS |
| 1 | Fundamentals of Programming | 6 |
| 2 | Mathematics | 6 |
| 3 | Computer Systems | 6 |
| 4 | Introduction to Computing and Algorithms | 6 |
| 5 | Elective Course | 6 |
| 6 | Object Programming | 6 |
| 7 | Calculus | 6 |
| 8 | Elective Course | 6 |
| 9 | Elective Course | 6 |
| 10 | Macedonian Language | 2 |
| 11 | Internship | 4 |
| To | tal ECTS | 60 |

Management of Information Systems

| Yearı | |
|---|---|
| Elective courses, 3 of the following: | |
| Computer Applications 1 | 6 |
| Computer Applications 2 | 6 |
| Computer Ethics and Responsibility | 6 |
| English for Specific Purposes ESP | 6 |
| Contemporary World Language – Italian 1-4 | 6 |
| Academic Writing | 6 |
| Introduction to Management | 6 |
| Contemporary World Language – German 1-4 | 6 |
| Introduction to Multimedia | 6 |
| Business Module 1 | 6 |

Management of Information Systems

| Yea | Year 2 | | |
|-----|---|------|--|
| Со | urses: | ECTS | |
| 1 | Introduction to Data Science | 6 | |
| 2 | E-Business and Innovation | 6 | |
| 3 | Introduction to Cybersecurity | 6 | |
| 4 | Operating Systems | 6 | |
| 5 | Elective Course | 6 | |
| 6 | Software Engineering | 6 | |
| | Introduction to Information Systems Project | | |
| 7 | Management | 6 | |
| 8 | Databases 1 | 6 | |
| 9 | Software Requirements Analysis | 6 | |
| 10 | Elective Course | 6 | |
| To | tal ECTS | 60 | |

| Year 2 | |
|--|---|
| Elective courses, 2 of the following: | |
| Advanced Calculus | 6 |
| Probability and Statistics | 6 |
| Global Understanding and Intercultural Communication | 6 |
| Systems Software | 6 |
| Network Technologies and Administration | 6 |
| Business Module 2 | 6 |
| Programming Languages | 6 |
| Data Structures and Algorithms | 6 |
| Computer Networks | 6 |
| Discrete Mathematics and its Applications | 6 |

| Year 3 | | |
|--------|--|---|
| | | |
| 1 | Data Security | 6 |
| 2 | Information Systems | 6 |
| | Introduction to Virtualization and Container | |
| 3 | Systems | 6 |
| 4 | Elective Course | 6 |
| 5 | Elective Course | 6 |
| 6 | Management of Information Systems | 6 |

Management of Information Systems

Information Systems Design

10 Graduation Thesis/ Capstone Project

Elective Course

Elective Course

11 Internship **Total ECTS**

| Year 3 | |
|---|---|
| Elective courses, 4 of the following: | |
| Multimedia Systems and Technologies | 6 |
| Entrepreneurship | 6 |
| Introduction to Machine Learning | 6 |
| Mobile Application Development | 6 |
| Business Module 3 | 6 |
| Software Quality and Testing | 6 |
| Fundamentals of Software Security | 6 |
| Databases 2 | 6 |
| Introduction to Artificial Intelligence | 6 |
| Principles of Project Management and Operations | 6 |
| Introduction to Human Resources Management | 6 |
| Digital Finance and Cryptocurrencies | 6 |
| Computer Graphics and Animation | 6 |
| Macedonian as a Foreign Language 1-4 | 6 |
| Distributed Databases | 6 |

Software Engineering 3+2

| Courses: | | ECTS |
|------------|--|------|
| 1 | Information Skills and Research | 6 |
| 2 | Web Based Systems | 6 |
| 3 | Advanced Database Organization | 6 |
| 4 | Modern Operating Systems | 6 |
| 5 | Elective Course | 6 |
| 6 | Cloud Computing | 6 |
| 7 | Contemporary Software System Architectures | 6 |
| 8 | Automatic Software Development | 6 |
| 9 | DevOpsSoftware Development | 6 |
| 10 | Elective Course | 6 |
| 11 | Elective Course | 6 |
| 12 | Design and Analysis of Algorithms | 6 |
| 13 | Artificial Intelligent Systems | 6 |
| 14 | Elective Course | 6 |
| 15 | Elective Course | 6 |
| 16 | Elective Course | 6 |
| 17 | Master Thesis | 24 |
| Total ECTS | | 120 |

| Elective courses, 6 of the following: | | |
|--|---|--|
| Robotics | 6 | |
| Parallel Programming | 6 | |
| Web Design | 6 | |
| Bioinformatics and Bioengineering | 6 | |
| Science of Programming | 6 | |
| Strategic HR Management | 6 | |
| Entrepreneurship | 6 | |
| Theory of Formal Languages and Finite Automata | 6 | |
| Signal Processing | 6 | |
| Operations and Project Management | 6 | |
| Artificial Intelligence | 6 | |
| Software Projects Management | 6 | |
| Advanced Computer Aspects of Macedonian Language | | |
| Graphical User Interface | 6 | |
| Business Module 4 | 6 | |
| MobileIS | 6 | |
| Software Systems Verification | 6 | |
| Cryptography | 6 | |
| Information Retrieval Systems | 6 | |
| Leadership | 6 | |
| Project Management | 6 | |
| Computer Integrated Production | 6 | |
| Data Mining | 6 | |
| System Analysis Design and Implementation | 6 | |
| Software Requirements Specification | 6 | |
| Vector Valued Algebraic Structures | 6 | |

Software Engineering 4+1

| Courses: | | ECTS |
|------------|-----------------------------------|------|
| 1 | DevOps Software Development | 6 |
| 2 | Design and Analysis of Algorithms | 6 |
| 3 | Artificial Intelligent Systems | 6 |
| 4 | Elective Course | 6 |
| 5 | Elective Course | 6 |
| 6 | Elective Course | 6 |
| 7 | Master Thesis | 24 |
| Total ECTS | | 60 |

| Elective courses, 3 of the following: | | |
|--|---|--|
| Software Systems Verification | | |
| Cryptography | 6 | |
| Information Retrieval Systems | 6 | |
| Cloud Computing | 6 | |
| Project Management | 6 | |
| Leadership | 6 | |
| Web Design | 6 | |
| ComputerIntegrated Production | 6 | |
| Data Mining | 6 | |
| System Analysis Design and Implementation | 6 | |
| Software Requirements Specification | | |
| Advanced Computer Aspects of the Macedonian | | |
| Language | 6 | |
| Vector Valued Algebraic Structures | 6 | |
| Theory of Formal Languages and Finite Automata | 6 | |

Management of Information Systems and Technologies 3+2

| Courses: | | ECTS |
|------------|---|------|
| 1 | Information Skills and Research | 6 |
| 2 | Information Systems Security | 6 |
| 3 | Operations and Project Management for Information Systems | 6 |
| 4 | Elective Course | 6 |
| 5 | Elective Course | 6 |
| 6 | Advanced Software Engineering | 6 |
| 7 | Security and Ethics in ICT | 6 |
| 8 | Business Module 4 | 6 |
| 9 | Software Project Management | 6 |
| 10 | Elective Course | 6 |
| 11 | Advanced Management of Information Systems | 6 |
| 12 | E-Business | 6 |
| 13 | Aspects of IS in Digital Era | 6 |
| 14 | Elective Course | 6 |
| 15 | Elective Course | 6 |
| 16 | Elective Course | 6 |
| 17 | Master Thesis | 24 |
| Total ECTS | | 120 |

| Elective courses, 6 of the following: | | |
|---|---|--|
| Advanced Database Organization | 6 | |
| Web Design | 6 | |
| Influence of New ICT on Business | 6 | |
| Data Mining and Research | 6 | |
| Theory of Computation, Formal Languages and Finite Automata | 6 | |
| Graphical User Interface | 6 | |
| Risk Management | 6 | |
| Security Management | 6 | |
| Cloud Computing | 6 | |
| Entrepreneurship | 6 | |
| Strategic HR Management | | |
| Advanced Computer Aspects of the Macedonian Language | 6 | |
| Software Systems Verification | 6 | |
| Technology Transfer | 6 | |
| Project Management | 6 | |
| Cryptography | 6 | |
| Information Retrieval Systems | 6 | |
| Leadership | 6 | |
| Internet Security for Cloud | 6 | |
| Computer Integrated Production | 6 | |
| Advanced Revision of IS | 6 | |
| Modeling and Managing Business Processes | 6 | |
| Vector Valued Algebraic Structures | 6 | |

 ${}^{\star} {\rm The} \ {\rm University} \ {\rm American} \ {\rm College} \ {\rm Skopje} \ {\rm reserves} \ {\rm the} \ {\rm right} \ {\rm to} \ {\rm amend} \ {\rm the} \ {\rm program}$

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