Caucasus University
Caucasus School of Technology

Master's Degree Program in IT Management
Course Descriptions

Caourse Name	Course Prerequizite	Caourse Description	Mandatory / Elective	ECTS	Semester
IT Service Management		The course describes the importance of information technology infrastructure and information technology services for organizations, the process approach, the overall outline of infrastructure management, the terms and concepts used in information technology infrastructure management. Issues such as information security management, service design, service strategy, service change management, service exploitation and improvement will be discussed. The aim of the course is to teach students about ICT methodologies and modern approaches, international experiences of ICT services.	Mandatory	6	I
Information Systems		The course covers: - The role of information systems in society, in modern organizations. - Information technology and software part, - The impact of information systems on business processes and decision making. - Modern international standards and libraries.	Mandatory	6	I
Database and Data Center Management		The course enables students to deepen their knowledge in database administration and data Center management. The theoretical and practical knowledge gained during the course will be useful both for beginner specialists and professionals in this field. The purpose of the course is for the student to gain knowledge in the administration of relational databases and to master effective methods of database planning, creation and operation.	Mandatory	6	I
Strategic Management		This course designed to prepare students to be senior managers for the increasingly competitive business world. The emphasis of this course will be on the strategic analyses, decisions, and actions that organizations take to create sustainable competitive advantages, with the consideration of both the internal condition and the external environment. Through chapters, readings, and case analyses, we will also discuss issues related to ethical decision making, corporate social responsibility, stakeholder theory, and the relationship of business & government.	Mandatory	6	I
Operating Systems in Corporation		An operating system mediates among software applications, devices and users. In order to understand the role and design of the operating system, it is necessary to have an understanding of the organization and architecture of the computer. The course will discuss issues such as: Types of operating systems, their purpose, key components and operating principles, server operating systems, their differentiation from customer systems, and their purpose in the corporate environment.	Mandatory	6	II

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ERP Systems		This course teaches enterprise data model and related best practices used in Enterprise Resource Planning (ERP) endeavors. Students will understand the concepts and issues of enterprise systems; Enterprise Application Integration concepts and technologies; the enterprise software and its role in enabling business strategy; the role of Information Technology in enterprise systems; how ERP supports the Enterprise; explore the developing infrastructure for widespread, pervasive, inter-organizational systems built on ERP platforms; explain the role of internet enabled solutions for enterprise software; understand the business components and applications modules included in enterprise software and relate them to common business processes.	Mandatory	6	II
Information Systems Security	Information Systems	An introduction to the various technical and administrative aspects of Information Security and Assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. The purpose of the course is to provide the student with an overview of the field of Information Security and Assurance. Students will be exposed to the spectrum of Security activities, methods, methodologies, and procedures. Coverage will include inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post incident procedures, technical and managerial responses and an overview of the Information Security Planning and Staffing functions.	Mandatory	6	III
Academic Writing & Research Methods		In this course students will be introduced to the main aspects of academic writing and research methods which will give them an opportunity to create a master's thesis compatible to the academic standards. During the course students will have an opportunity to learn unified rules of writing, the technique of making a critical analyses, processing of decisions and other issues reflecting them into the thesis. The course also covers the followings stages of research: identifying the research problem, planning research design, equipment and drawing a scale, identifying operating measures, collecting data, analysing research results.	Mandatory	6	III
Master's Thesis	Academic Writing & Research Methods	The students at his/her own discreetion, choice and field of interest selects a topic for his/her master's thesis. The paper is to be written in a language understandable to a reader and clearly reveal the problem of the research. The final paper is presented to the student's scientific advisor and the commission and is evaluated and graded in accordance with general standards. The paper should reveal student's justified attitude to the topic of research as well as the knowledge gained in the process of learning and should concern a particular IT phenomenon within his/her ineterests or the work based on empirical research.	Mandatory	30	IV

Course	Area	Description	Type	Credits	Semester
Electronic Governance		Information and Communication Technologies (ICT) is a rapidly evolving and growing field that plays a key role in the world economy, community formation, administration and management. E-government aims to set out the government's services to users (citizens, businesses, and non-governmental organizations) to provide maximum comfort in the form of e-services, to promote these services, users interact with the government, reduce bureaucracy and costs, to promote citizens' involvement in the decision s making process. To achieve these goals, strategic planning and result-oriented implementation using successful worldwide examples are essential. The course describes the history of e-government development in Georgia and several successful countries in the world, describes strategic planning methodology and best practices, with particular emphasis on the use of monitoring and evaluation tools, normative database analysis and implementation of key information security principles, And establishing open / transparent governance and e-democracy.	Elective	6	I
Enterprise Architecture		Concepts of enterprise architecture as a management tool for organizations to align their information technology assets, people, operations, and projects with operational characteristics. Service-oriented architectures, performance reference models, configuration management, system development life cycles, and tiered application architectures.	Elective	6	I
Software Engineering		Modern software engineering is one of the fastest growing fields of innovation, often involving sharing practical experience in the field and discussing modern approaches. Students will learn the stages of both small and large-scale projects / product design, their methodologies, and problem-solving approaches. The purpose of the course is to give the student the necessary knowledge to understand and plan all the steps necessary for designing software products. From the creation of Scoop to the final product.	Elective	6	I
Accounting and Finances		Fundamentals of Financial accounting, Managerial accounting and Corporate finance. During lectures students' questions regarding previously covered topics will be answered; new topics will be explained; practical examples will be given; problems and there solutions will be discussed. Slides, charts, web materials and printed materials (handouts, cases, etc.) will be used intensively during the lectures.	Elective	6	II
Strategic Marketing		The course goal is to provide an overview of marketing as a management process and demonstrate the importance and role of marketing in any type of organization through analyzing modern marketing practices. Upon its successful completion, students will gain the ability to make better business decisions by understanding how to assess the marketing environment, design and conduct marketing research, and determine what elements are most important to customers as they make purchasing decisions.	Elective	6	II
Information Systems Management	Information Systems	Fundamental IS concepts from an organizational and managerial perspective; Organizational impacts of IS; Business value of different types of IS; Technological component of IS; Building and managing IS; Management of Global IS; Integrating emerging information technologies; IS investments; Ethics and Social Issues; Best practices and case studies in management of IS.	Elective	6	II

Cyber Security for Managers		The course will teach students the world and Georgia's legislative framework, the dangers and challenges of cyberspace, the history of cyberdomain use in modern conflicts, as well as the basics of cyberspace security for business and government circles. The purpose of this course is to teach the learner how to use cyberspace in state, political, geopolitical or business areas. The knowledge gained will enable the graduate to become a public sector or business cyber security policy maker.	Elective	6	II
Data Communications and Networking		This course provides an in-depth knowledge of data communications and networking requirements including networking and telecommunications technologies, hardware, and software. Emphasis is upon the analysis and design of networking applications in organizations. Management of telecommunications networks, cost-benefit analysis, and evaluation of connectivity options are also covered. Students learn to evaluate, select, and implement different communication options within an organization.	Elective	6	III
Cloud Technologies		Students will learn the basic concepts and terminologies of cloud computing via lectures and hands-on laboratory examples. Topics to be discussed include the definition of cloud computing, evolution of cloud computing, virtualization, cloud computing delivery models (SaaS, PaaS, IaaS), and the various cloud computing deployment methods (public, private, hybrid, and community).	Elective	6	III
Project Management		Formalized methodology of project management is extremely important for the introduction of the projects in the field of information systems and technology. According to the international statistical data collected from different sources, 70% of IT projects are unsuccessful (significantly miss the goals, terms or budget). Half of them do not reach the final goals at all and happen to be delayed after considerable time and financial expenses. The use of project management methodology in the field of information systems and technology is even more important according to the fact that such kind of projects are mainly led by IT professionals who, taking into account the specifics of the work, have little experience of formalization and management. The course is aiming to teach students the principles and techniques of project management. The course is based on the standards of the international institute of project management (PMI – Project Management Institute), which is widely recognized. All the example and cases in the course are based on the true IT projects.	Elective	6	III
Modern Cryptography		The course will teach students symmetric and asymmetric cryptography. After the course, students will know which cryptographic schemes they should use and the rules for their use. Students will be familiar with the challenges of modern cryptography and current scientific research directions. The course also introduces students to post-quantum cryptography, introduces problems in the field and methods for solving them.	Elective	6	III

Statistics for managers		This introductory course in data analysis and statistical inference requires no background in statistics. Its objective is to provide individuals who aspire to enter IT management positions with the basic statistical tools for analyzing and interpreting data. The course is divided into three distinct modules: descriptive statistics, statistical inference, and regression analysis. The emphasis of the classes on descriptive statistics is the calculation and interpretation of summary statistical measures for describing raw data. The sessions on statistical inference are designed to provide you with the background for executing and interpreting hypothesis tests and confidence intervals. The final component of the course focuses on regression analysis, a widely used statistical methodology.	Elective	6	III
Decision Making		Rational procedures for solving decision problems, basic methods and instruments of decision-making under certainty, risk or uncertainty. Approaches to risk management, choice of suitable decision-making styles, and application of theoretical knowledge to solving business decision problems. Upon successful completion of this course, students will be able to analyze and formulate decision problems, apply methods of multi-criteria decision-making to rationally make choices. The students will be able to apply tools of decision making under risk and uncertainty in the area of business problems. The students will be able to explain foundations of solid risk management system in organization. Also they will be able to apply sound team-work approaches and choose decision-making style. This course is designed to make you a better decision maker. Good decision makers know how to recognize decision problems, how to represent the essential structure of the decision situation, and how to analyze the problem with the formal tools based on decision theory.	Mandatory	6	III
Data Warehousing	Statistics for managers	This course includes the various factors involved in developing data warehouses and data marts: planning, design, implementation, and evaluation; review of vendor data warehouse products; cases involving contemporary implementations in business, government, and industry; techniques for maximizing effectiveness through OLAP and data mining.	Elective	6	IV

Internet Technologies		Concepts, architectures, frameworks, and technology of web application development. The Internet as hardware and software architecture for creating business applications. Web and web application servers, system development methods and techniques, client-side and server-side scripting. Basic networking concepts; Internet communication protocols such as TCP/IP, HTTP, FTP, RTP; Socket programming; Advanced Web page development with JavaScript, CSS and AJAX; Server-side development technologies such as JSP and Java servlets; Web development framework; Security issues including threat identification, security strategies, encryption and authentication.	Elective	6	IV
Innovation & Change Management		The course aims at acquiring new skills and competences for understanding, managing and leading the impact of rapidly changing organizations. In the real world, the most carefully developed plans for change can and, often do, disintegrate during implementation, disrupting revenues, economic results, but also the lives of people working in them. This is due because of uncertainty: managers often cannot recognise change, predict how change can be deployed, as well as the effects it produces. Students will understand, from a concrete point of view, how to approach a change management process in order to better control its dynamics and effects, as well as to lead people to change.	Elective	6	IV
Human Resource Management		This course introduces the principles and practices of human resource management. This is an introductory survey course which combines theoretical and practical information relating to the "most important asset" in organizations today – people. Human capital is arguably today's most important lever to achieve and sustain competitive advantage. HR leaders have increasingly been joining other leaders at the business decision-making table. This positive trend highlights the importance of Human Capital as a fundamental building block of the organization. In organizations where HR has earned a "seat at the table" it is because they have demonstrated an ability to understand the business issues and to develop and deliver programs that ensure that the right talent is in place at the right time to execute the company's business strategy.	Elective	6	IV
Professional Practice		The purpose of the course is to enable the student to apply the knowledge gained in the audience to the practice in a particular organization. To deepen knowledge in a particular direction. Get acquainted with information technology management and their specifics, master the practical skills required to work in the IT departments. The students will be able to develop their own attitude towards a particular activity and take advantage of the choice directly before taking on a future job commitment; Upon completion of the professional internship program, the student will be able to easily and quickly gain employment.	Elective	12	IV