

Summary of MSc Programmes at SCI – May 2012

MSc Information Systems (IS)	MSc Computer Science (CS)	MSc Applied Computer Science (ACS)
<p>The objectives of the programme are:</p> <ul style="list-style-type: none"> • provide an opportunity to students from any discipline to pursue training in Information Systems and produce skilled manpower. • enable Information Systems practitioners in industry to pursue further studies while in gainful employment; • serve national and regional development needs with respect to staff development; • provide an exit point in the form of a Postgraduate Diploma in Information Systems for those candidates who do not wish to undertake a substantive project upon successful completion of the core course units. 	<p>The objectives of the programme are:</p> <ul style="list-style-type: none"> • create new opportunities for postgraduate research in Computer Science • contribute to the production of Computer Science professionals required at the various levels of our industrial development. • inculcate a proactive and relevant information communication technology (ICT) research and development community. • foster national and regional collaboration in Computer Science • collaborate with industry to develop ICT products, systems and services that address key economic needs. • produce high quality education, research, systems and products that competes effectively at the global level. • provide an exit point in the form of a Postgraduate Diploma in Computer Science for those candidates who do not wish to undertake a substantive project upon successful completion of the core course units. • 	<p>The objectives of the programme are:</p> <ul style="list-style-type: none"> • To create new opportunities for postgraduate research in Kenya in Computer Science and Information Systems. • To contribute to the production of computer science and information systems professionals required at the various levels of our nation's industrial development and thereby be a partner in the industrial development of Kenya. • To cultivate an active and relevant information technology (IT) research and development community. • To collaborate with industry to develop IT products and services that address needs in key economic sectors. • To produce high quality education, research and products that compete effectively at the global level.
<p>Core Course Units</p> <ul style="list-style-type: none"> • Computer Architecture • Foundations of Artificial Intelligence • Database Design and Management • Operating Systems • Computer Network Concepts and Principles • Systems Analysis and Design • ICT Project Management • ICT and Society • Object-Oriented Technologies • Research Methodology in Information Systems 	<p>Core Course Units</p> <ul style="list-style-type: none"> • Design and Analysis of Algorithms • Research Methodology • Computer Logic and Symbolic Reasoning • Theory of Computation • Distributed and Parallel Computing • Multi-agents Systems • Information Systems Strategic Management • Business Process Re-engineering • Human Computer Interaction • Modeling and Simulation 	<p>Core Course Units</p> <ul style="list-style-type: none"> • Applied Mathematics for Computer Science • Research Methodology • Entrepreneurship • Foundations of Product Design

<p>Elective Course Units (Select any Three unit)</p> <ul style="list-style-type: none"> • Management Information Systems • Internet Applications • Information Systems Security, Control and Audit • Data Communications and Network Design • Distributed Systems • Mobile and Wireless Networks and Applications • Machine Learning • Knowledge-Based Systems 	<p>Elective Course Units (Choose any Three units)</p> <p>Information Systems Electives</p> <ul style="list-style-type: none"> • Geographic Info. Systems and Remote Sensing • Data Warehousing and Data Mining • Information Systems Security and Audit • Legal & Ethical Aspects of Computing <p>Software Engineering Electives</p> <ul style="list-style-type: none"> • Systems Engineering <p>Distributed Systems Electives</p> <ul style="list-style-type: none"> • Distributed Systems Design • Network Performance • Distributed Computing Algorithms • Computer Networks Design <p>Computer Architecture Electives</p> <ul style="list-style-type: none"> • Digital Signal Processing • Real-time Systems and Embedded Systems • Advances in Parallel Computer Architectures • Fault Tolerant Computing <p>Artificial Intelligence Electives</p> <ul style="list-style-type: none"> • Machine-Learning • Evolutionary Computation • Natural Language Processing <p>Scientific Computing Electives</p> <ul style="list-style-type: none"> • Methods in Bioinformatics 	<p>Elective Course Units (Choose any Two - Application Area Electives)</p> <p>Distributed Systems Electives</p> <ul style="list-style-type: none"> • Data Communication Networks - Advanced topics • Distributed systems Advanced topics • Parallel and Distributed Supercomputing • Distributed Algorithms • Distributed Multimedia Systems • Distributed Databases • Fault Tolerance in Distributed Systems <p>Artificial Intelligence Electives</p> <ul style="list-style-type: none"> • Knowledge Engineering and Society • Neural Networks • Natural Language Processing • Speech Recognition • Expert Systems • Case-based Reasoning <p>Computer Architecture Electives</p> <ul style="list-style-type: none"> • Fault Tolerance • Parallel Processing • Parallel Processing Simulation • Novel Computing Simulation • Novel Computing Systems • Advanced Algorithms Design & Analysis • Simulation of Algorithms <p>Information Systems Electives</p> <ul style="list-style-type: none"> • Information Systems Development • Info. Systems Strategy and Implementation • Software Project Management • Information Systems Audit • Information Systems and Organization
<p>Project</p> <ul style="list-style-type: none"> • Project (Postgraduate Diploma) OR • Project (MSc) 	<p>Project</p> <ul style="list-style-type: none"> • Project (Postgraduate Diploma) OR • Project (MSc) 	<p>Project</p> <ul style="list-style-type: none"> • Product Design and Development Project