KNOWLEDGE EXCHANGE INSTITUTE

MAJOR-SPECIFIC STUDY & INTERN ABROAD PROGRAMS

63 Sickletown Road • West Nyack • New York • 10994 • United States of America
Ph. 1.212.931.9953 • Fx. 1.212.528.2095 • info@KEIabroad.org • www.KEIabroad.org

Course Offerings
FACULTY OF INFORMATICS (COMPUTER SCIENCE)
University of Dar es Salaam

This file has been adapted from the University of Dar es Salaam (UDES) prospectus. Contact KEI for course descriptions and syllabi. Please be patient as it may take 2 to 6 weeks to obtain course descriptions (and syllabi when available). UDES does not have a digitized system for course information; so much of the work must be done manually and through direct contact with each professor.

Course Selection & Approval
UDES uses a very different system for course scheduling and registration. It is important to keep the following in mind when selecting your courses:

1. Not all courses listed in this file are offered each academic term.
2. Course availability and schedule for each academic term is made available by UDES only a couple of days before the semester starts.
3. Some courses may be cancelled after the first week of classes.

In general, the course selection process includes the following steps:

1. Select at least 10 (preferably more) courses for each semester of study. The more courses you select the better (and the quicker the process). Make sure to select courses that are offered during your semester of study; Semester 1 (Fall) and Semester 2 (Spring). Refer to other course files for more course options (http://www.KEIabroad.org/programs/darsalaam/academics.php).
2. Consult with your academic and/or study abroad advisor regarding your course selections. Obtain credit transfer approval from your university.
3. Inform your KEI Program Manager about your course selections.
4. KEI will check with UDES which courses will be offered during your semester of study. This process may take several weeks - sometimes longer.
5. KEI will inform you about which courses will be offered. It may be necessary to select additional courses.

Please speak with a KEI Program Manager before starting the course selection process. We will be glad to explain the education system at the University of Dar es Salaam and help you through the entire process.

UNDERGRADUATE PROGRAMME COURSES

Course Code	*Course Title*	*Units*	*Semester*
DS 101:	Perspectives of Development I	2	1
DS 102:	Perspectives of Development II	2	2
DS 211:	Entrepreneurship	2	2
SC 215:	Science Methods	2	2

First Year (*Double Major*)

Course Code	*Course Title*	*Units*	*Semester*
IS 132:	Introduction to High Level Programming	4	1
IS 151:	Digital Circuitry	3	1
IS 161:	Basic Computer Applications	3	1
MT100:	Foundations of Analysis	3	1
MT137:	Discrete Mathematics	2	1
IS 133:	Systems and Organisations	2	2
IS 134:	Social-cultural Implications of Information Technology	2	2
IS 135:	Introduction to Computer Architecture	2	2
IS 136:	Programming in C	3	2
IS 137:	Data Structures and Algorithms	3	2
MT127:	Linear Algebra I	3	2
IS 131:	Introduction to Informatics and Microcomputers	3	2
IS 243:	Practical Training for Computer Science I	2	2

Second Year (*Double Major*)

IS 251:	Computer Networks	3	1
IS 272:	Software Development I	3	1
MT239:	Mathematical Logic and Formal Semantics	2	1
IS 244:	Operating Systems	4	1
EV 200:	Environmental Science I	2	1
IS 233:	Group Support Systems (GSS) Technology and Applications	2	1
IS 262:	Compiler Technology	2	1
MT233:	Mathematical Statistics I	2	1
IS 235:	Computerized Accounting	2	1
IS 292:	Object Oriented Programming	3	2
IS 263:	Database Concepts	3	2
IS 261:	Network Design and Administration I	3	2
IS 258:	PC Maintenance	2	2
MT254:	Numerical Analysis I	2	2
IS 343:	Practical Training for Computer Science II	2	2
IS 242:	Introduction to Computer Graphics	3	2
IS 273:	Unix Systems Administration in Linux Operating System	2	2
IS 253:	Introduction to GIS	2	2
IS 282:	Software Development II	3	2

Course Code	*Course Title*	*Units*	*Semester*
IS 234:	Human Communication and Information Systems	3	2
MT218:	Linear Programming	2	2

Third Year (Double Major)

IS 381:	Distributed Systems	2	1
IS 333:	System Analysis and Design	3	1
MT338:	Queuing theory and Inventory Modules	2	1
IS 342:	Management & Control of Software Project	3	1
IS 335:	Final Year Project	2	1
IS 334:	Organization and Management of Information Systems	2	1
IS 363:	Introduction to Artificial Intelligence	2	1
EV300:	Environmental Science II	2	1
IS 353:	Implementation of Databases	3	2
IS 335:	Final Year Project	2	2
IS 383:	Internet Application and Programming	2	2
MT373:	Mathematical Statistics II	3	2
IS 364:	IT Security	2	2
IS 354:	Trends in Changing Information Technology	2	2
IS 373:	Introduction to Computer Simulation and Modeling	2	2

B.SC. (WITH COMPUTER SCIENCE)

First Year (*Single Major with IS and MT + ST or PH*)

IS 132:	Introduction to High Level Programming	4	1
IS 161:	Basic Computer Applications	3	1
IS 136:	Programming in C	3	1
IS 137:	Data Structures and Algorithms	3	1
IS 243:	Practical Training for Computer Science I	2	1
IS 135:	Introduction to Computer Architecture	2	1
MT120:	Functions of Single Variable	3	1

Second Year

IS 263:	Database Concepts	3	1
IS 244:	Operating Systems	4	1
IS 272:	Software Development I	3	1
EV 200:	Environmental Science I	2	1
IS 235:	Computerized Accounting	2	1
IS 233:	Group Support Systems (GSS): Technology & Applications	2	1
IS 262:	Compiler Technology	2	1

Course Code	*Course Title*	*Units*	*Semester*
IS 251:	Computer Networks	3	1
IS 292:	Object Oriented Programming	3	2
IS 282:	Software Development II	3	2
IS 343:	Practical Training for Computer Science II	2	2
IS 242:	Introduction to Computer Graphics	2	2
IS 261:	Network Design and Administration I	3	2
IS 253:	Introduction to GIS	2	2
IS 258:	PC Maintenance	2	2
IS 234:	Human Communication and Information Systems	2	2
Third Year			
IS 333:	System Analysis and Design	2	1
IS 335:	Final Year Project	2	1
IS 381:	Distributed Systems	2	1
IS 334:	Organization and Management of Information Systems	2	1
IS 351:	Networks Design and Administration II	2	1
IS 363:	Introduction to Artificial Intelligence	3	1
EV 300:	Environmental Science II	2	1
IS 353:	Implementation of Databases	3	2
IS 383:	Internet Application and Programming	2	2
IS 335:	Final Year Project	2	2
IS 342:	Management and Control of Software Project	3	2
IS 354:	Trends in Changing Information Technology	1	2
IS 364:	IT Security	2	2
IS 373:	Introduction to Computer Simulation and Modeling	2	2

DEPARTMENT OF ELECTRONICS SCIENCE AND COMMUNICATION

Common Courses for all Students

DS 101:	Perspectives of Development I	2	1
DS 102:	Perspectives of Development II	2	2
DS 211:	Entrepreneurship	2	2
SC 215:	Science Methods	2	2

B.SC. (ELECTRONICS SCIENCES AND COMMUNICATION)

First Year

PH 115:	Electromagnetics and Optics	3	1
ES 101:	Technical Drawing, Laboratory & Workshop Administration	3	1

Course Code	*Course Title*	*Units*	*Semester*
ES 110:	Analogue Electronics I	2	1
ES 103:	Practicals in Electronics	1	1
MT100:	Foundations of Analysis	3	1
ES 120:	Digital Electronics I	2	2
MT120:	Analysis I: Functions of a Single Variable	3	2
IS 134:	Social-cultural Implications of Information Technology	2	2
ES 105:	Fundamentals of Computer Architecture	2	2
IS 136:	Programming in C	3	2
ES 240:	Industrial Training I	2	2
CL107:	Communications Skills for Scientists	2	2
IS 137:	Data Structures and Algorithms	3	2
MT 127:	Linear Algebra I	3	2
Second Year			
MT 200:	Analysis II: Calculus of Several Variables	3	1
MT 223:	Mathematical Statistics I	2	1
IS 251:	Computer Networks	3	1
PH 201:	Mathematical Methods I	2	1
ES 210:	Analogue Electronics II	4	1
EV 200:	Environmental Science I	2	1
ES 202:	Quantum Electronics	2	2
ES 220:	Digital Electronics II	4	2
PH 213:	Electromagnetism II	2	2
PH 202:	Mathematical Methods II	2	2
IS 292:	Object-Oriented Programming Concepts	3	2
IS 244:	Operating Systems II	4	1
IS 262:	Compiler Technology	2	1
IS 263:	Database Concepts	3	1
MT254:	Numerical Analysis I	2	2
IS 261:	Networks Design and Administration I	3	2
Third Year			
ES 310:	Electronic Instrumentation I	2	1
ES 334:	Signal Processing I	2	1
ES 399:	Project I	2	1
ES 318:	Electronics Control	3	2
ES 316:	PC Interfacing Techniques	2	2
ES 399:	Project II	2	2

Course Code	*Course Title*	*Units*	*Semester*
	(*Electronics Stream*)		
ES 302:	Solid State Electronics	3	1
ES 304:	Microelectronics	2	1
ES 314:	Microprocessors Theory and Practice	3	2
ES 311:	Electronic Instrumentation II	2	2
ES 322:	Industrial Electronics	2	2
	(*Communication Stream*)		
ES 330:	Telecommunication I	2	1
TE 411:	Microwave Communications	4	1
ES 332:	Opto-electronics	2	2
ES 335:	Signal Processing II	3	2
TE 412:	Introduction to Wireless Communication	3	2
ES 300:	Computer-Aided Design and Analysis	2	1
ES 320:	Nuclear Electronics	2	1
ES 337:	High Frequency Communications System Design	2	1
ES 339:	Ultra-fast Electronics Techniques	2	1
ES 343:	Emerging Electronics and Communication Technologies	2	2
ES 306:	VLSI Circuit Design	2	2
ES 341:	Communication Digital Signal Processing	2	2
IS 364:	IT Security	2	2
IS 383:	Internet Applications and Programming	2	2
BM100:	Principles of Management and Administration	3	1
LW 306:	Law for Engineers	2	*
TM400:	Engineering Ethics and Professional Conduct	1	*
MG445:	Entrepreneurship for Engineers	3	*
EV 300:	Environmental Science II (Physical Sciences)	2	2