Master of Science in Mathematics

Programme Name:

Master of Science in Mathematics

Programme Code:

MSM

Duration:

The programme shall be run for a period of two academic years (four semesters)

Study Time:

Fulltime/Day

Intake:

August

Faculty:

Faculty of Science

Programme Description

Mathematics is the backbone of the natural sciences and many other areas of life as it is found in all other science subjects, i.e. technology, business/financial institutions, ICT and government sectors like fisheries, environment, transport and health. The programme shall provide first-hand knowledge, experience and applications of advanced mathematics to foster students' research experience. It will be run on a regular basis during the day. It will be based on course work and dissertation. An applications-based approach will be taken where applications of several of the courses to biology, economics, physics, and engineering will be explored. The objectives of this programme are to train professional mathematicians capable of giving high quality service delivery to institutions and industries of diverse backgrounds, and in a variety of social and cultural settings; equip students with skills that will enable them to undertake research in the subject itself, and participate in innovations to solve real problems; develop problem-solving potential and research interest of students by exposing them to problem situations and by mentoring them through the research process; and develop an interdisciplinary approach and collaboration across scientific fields to stimulate growth.

Entry Requirements:

Candidates intending to enter the MSc. Mathematics programme must have at least one of the following qualifications:

a. Holders of PGD Mathematics in any recognized University in compliance with NCHE guide lines for PGD Mathematics. However, the course work part of the programme may be subject to a waiver so that such students can proceed to the research part of the programme or do selected courses to make up for the deficit.

b. Holders of at least second class lower in Bachelor of Science with Mathematics as a major subject from a recognised University.

c. Holders of at least second class lower in BSc. Education combined honors with a major in Mathematics from a recognised University.

d. Holders of BSc. Engineering in any of the Engineering programmes with at least second class lower from a reputable University.

Tuition/ Sem East African

UGX 1,500,000

Tuition/Sem Non East African

USD 730

Programme Structure: (Tabulated Programme structure as illustrated below)

Year One Semester One					
Course Code	**Course Title**	**LH**	**PH**	**CH**	**CU**
MTH 7101	Advanced Partial Differential Equations	45	30	60	4
MTH 7102	Advanced Functional Analysis	60	00	60	4
MTH 7103	Computer Programming and Applications	15	90	60	4
MTH 7104	Measure Theory and Integration	60	00	60	4
MTH 7105	Research Methods	45	30	60	4
MTH 7106	Operations Research	30	60	60	4
Semester Credit Units					**24**
Year One Semester Two					
CORE					
MTH 7201	Advanced Numerical Methods	30	60	60	4
MTH 7202	Applied Dynamical Systems	60	00	60	4
MTH 7203	Advanced Algebra	60	00	60	4
MTH 7205	Scholarly Writing and Publication Skills	60	00	60	4
Electives (Choose at least One)					
MTH 7206	Group Theory	60	00	60	4
MTH 7207	Bayesian Statistics and Applications	60	00	60	4
MTH 7208	Numerical Linear Algebra	30	60	60	4

MTH 7209	Advanced Topology	60	00	60	4
MTH 7210	Differential Geometry	60	00	60	4
Semester Credit units					**24**
Year Two Semester One					
	Semester I (Choose ANY three)				
Course Code	**Course Title**	**LH**	**PH**	**CH**	**CU**
MTH 7301	Advanced Graph & Network Theory	45	30	60	4
MTH 7302	Representation & Category Theory	60	00	60	4
MTH 7303	Semigroup Theory	60	00	60	4
MTH 7304	Lie Groups and Lie Algebra	60	00	60	4
MTH 7305	Extreme Value Theory	60	00	60	4
MTH 7306	Risk, Investment & Portfolio Theory	60	00	60	4
MTH 7307	Stochastic Control and Applications	60	00	60	4
MTH 7308	Advanced Mathematical Modelling	60	00	60	4
MTH 7309	Fluid Dynamics	60	00	60	4
MTH 7310	Fourier Theory & Finite Element Methods	30	60	60	4
MTH 7311	Applied Number Theory	45	30	60	4
Semester Course Units					**12**
Year Two Semester Two					
MTH 7401	Research and dissertation				10

Career opportunities/ Destinations:

Target Audience:

The filled template should be sent to communications@kab.ac.ug.