

Uganda Martyrs University



Faculty of Science

Undergraduate Faculty Handbook

2016 - 2017

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STAFF LIST

University Administration

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Deputy Vice Chancellor Academic Affairs

Assoc. Prof Michael Mawa

Deputy Vice Chancellor Finance and Administration

Mr. Moses Kibrai

Registrar

Rev Fr Dr Christopher MUKIDI

Director Human Resource

Mrs Suzanne Okiring

Dean of Students

Rev Sr Cecilia Draru

Chief Finance Officer

Sr Jane Florence AMODING

Faculty of Science

Dean

Dr Richard O AWICHI

BSc (Educ.), MSc (Mak) PhD (JKU)

Associate Dean

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Dip (Rel); MA Divinity; BSc Math/Econ (USF); MSc Maths (MARQUETTE), PhD (Kleuven)

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Head of Department of Mathematics and Statistics

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Faculty Administrator

Ms Molly Nantongo

BA (Mak); MBA

Administrator ICT Resource Centre

Ms. Rose Mary Nakalema

BSC IT (UMU)

Lecturers

Mr. Perez MUJUNI

BSc Educ; MSTAT (Mak)

Mr Emmanuel MUGEJJERA

B.Phil, PGDE, PGD (CS), MSc CS (Mak), PhD (Candidate)

Mr Peter KALEMA

B.Comp Application (Barkatullah University Bhopal, India); MSc Computer (Barkatullah University Bhopal, India)

Mr Andrew LUKYAMUZI

BSc; MSc (CS) (Mak); Dip CS (KYU); MCP (Microsoft), PhD (Candidate)

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BSc; PGDE (IUIU); MSc (Mak)

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BSc (Educ) (MUST); MSc (Mak); PhD (Student)

Assistant Lecturers

Ms Olivia Nabawanda

BSc (Educ) MUST; MSc (Accra)

Teaching Assistants

Mr. John Bosco LOKOLIMOI

BSc (Fin Math) (UMU); DIP(UPK), MBA (Candidate)

Ms Daphine ABEINEMUKAMA

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CONTACT INFORMATION

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SEMESTER SCHEDULES 2016 - 2017

1st Semester

Monday 8 th August 2016 -14 th August 2016	Orientation week
Sunday 14 th August 2016 -	All full time students return
15 th August 2016 - 19 th November 2016	14 Lecture weeks
21 st November 2016 - 26 th November 2016	Reading Week
28 th November 2016 - 10 th December 2016	Final Assessment weeks
10 th December 2016 -	All students depart from campus

2nd Semester

Sunday 15 th January 2017-	All full time students return
16 th January 2017 - 4 th May 2017	14 Lecture weeks
24 th April 2017 - 28 th April 2017	Reading Week
1 st May2017 - 12 th May 2017	2 Assessment weeks
13 th May 2017	-All full time students depart from campus

Special/Supplementary Examinations Begin Early August 2017 (For all years)

MISSION AND VISION STATEMENTS

UGANDA MARTYRS UNIVERSITY

Uganda Martyrs University (UMU) is located at Nkozi, 82 km west of Kampala, the capital city of Uganda. Established in October 1993 with 84 students and two academic departments, UMU currently has 7 Faculties, 1 Institute and 3 Schools; and about 5,000 students, of whom about 1,500 are full-time residents on campus. Others participate in distance-learning and part-time programmes at the University campuses in Kampala, Mbale and Masaka. The University has established an international reputation and students come from several countries in Africa, Europe and the US for full-time and part-time programmes; and others for field work and research.

The University is committed to its vision, which is: *“to be a university that is nationally and internationally recognized for excellence in research and the advancement of knowledge.”* Basing on its slogan, *“Making a Difference,”* the University members and alumni are encouraged to make a positive contribution to society wherever they are. The Mission of the University is *‘to provide quality higher education, training and research for the betterment of society guided by ethical values’.*

FACULTY OF SCIENCE

The vision of the Faculty of Science which is: *a model and reputable center of excellence in research, teaching and community engagement at Uganda Martyrs University* is derived from the recognition that real national development of the country and the entire mankind starts from serious study and understanding of science. Without a large section of the population internalizing science subjects and applying scientific methods to solve problems, development is bound to be staggered and slow.

The mission of the Faculty is: *to provide high quality holistic education through scientific research, training and community engagement to enhance practical skills and community development.*

The Faculty is, therefore, committed to training competent, high-level manpower in science subjects that will increase the stock of scientists in and outside Uganda to the highest levels within the reach of the University, while at the same time enhancing and updating skills of staff by encouraging attainment of higher qualifications either through conventional studies and/or research and to publish results in local and/or international publications. Facilitation towards this goal is usually provided by the Faculty whenever possible.

The Faculty encourages inter-disciplinary teaching across other faculties and visiting

lectureship between universities (with which Uganda Martyrs University has established such cordial relationships), as well as amicable relationship between staff and its students so as to foster confidence among the students: which confidence will be of potential application when they leave the University and go out in the world to be on their own.

While striving to achieve all the above, the Faculty will actively participate in community outreach activities within its reach and capability.

DEPARTMENTS

There are two departments in the Faculty, namely: The Department of Computer Science and Information Systems (CSIS) and the Department of Mathematics and Statistics. All students in the Faculty fall under these two departments depending on the programme of study. Students offering Bachelor of Science in Information Technology (BSc (IT)) are under the department of CSIS while students offering Bachelor of Science (General) are under the two departments: again depending on the combination and or subject choice. Students offering Financial Mathematics are under the department of Maths and Stat.

QUALIFICATIONS OFFERED

The University may grant the following degrees to students who, under conditions laid down in the regulations, have completed approved courses of study and have passed the prescribed examinations of the University:

- [1] Diploma in Computer Science & Information Technology, Dip CS & IT (UMU)
- [2] Bachelor of Science, BSc (UMU) with possible fields of specialisation listed below:
 - I. Economics and Statistics
 - II. Economics and Computer Science
 - III. Economics and Mathematics
 - IV. Statistics and Computer Science
 - V. Mathematics and Computer Science
 - VI. Mathematics and Statistics
- [3] Bachelor of Science Financial Mathematics, BSc (Fin Math) (UMU)
- [4] Bachelor of Science Information Technology, BSc IT (UMU)

There are postgraduate programmes in the faculty. These include: Master of Science in Information Systems, Master of Science in ICT Management, Policy and Architectural Design and Master of Science in Computer Science Free and Open Source Software Engineering. You can get more information about them from the Faculty Administrator as you think about further studies after you graduate.

All Bachelor degree programmes are of three years duration each and may be conferred at honours or pass level. The Diploma programme is for two academic years.

AWARDS OF MERIT

The Faculty of Science offers two meritorious awards and a scholarship award in the recognition of good performance of the students:

a) **Robert and Anabella KAHLE Award.**

The award goes to the best performing Bachelor of Science student in the fields of Mathematics and/or Computer Science upon graduation. The award is US\$250.

b) **Marie-Esther HAFLETT Scholarship Award**

This award of Ushs 1,000,000 is given for the best female and male students (500,000/= each) in Mathematics in the second year. It started in 2010 and will end in 2025. It was offered by Associate Professor M.E. HAFLETT who taught Mathematics in the faculty from 1993 to 2009. Assoc Prof. M.E. HAFLETT also served as Faculty Dean and Registrar of the University.

UGANDA MARTYRS COMPUTER SOCIETY

The UMU Computer Society (UMUCS) was launched on the 24th March 2007. It is a forum for people who are interested in Computer Science and Information Technology. The purpose of the forum is to unite various interest and skills in order to stay on top of the developments in this fast changing field, individuals will not survive.

UMUCS provides an environment where the skills learned from the University either formally or informally can be applied in real projects. It also provides an environment that encourages discussion and sharing of information and ideas about the developments in computing and information technology in Uganda and Africa versus

the rest of the world, as well as how these developments can be put to practical use. It encourages people from all faculties to join as members. Its activities are by no means limited to the Faculty of Science.

UGANDA STATISTICAL SOCIETY

UMU is a co-operate member of the Uganda Statistical Society. The Faculty of Science encourages every student of Statistics to individually become a member of this society to enable him/her practice the statistics profession without hindrance. To this effect, there is Uganda Martyrs University Statistics Association, UMUSA, based in the Faculty and brings together all students offering Statistics or Statistics related courses in the University.

FACULTY REGULATIONS

GENERAL

Students are expected to attend classes regularly, take tests as determined by staff, and submit papers at the specified times. Lecturers are not obliged to accept work submitted after the date given, or to grant extensions.

Students absent from class for more than three consecutive days should inform the Dean of the Faculty. Students who are sick must inform the University Nurse, even if they go elsewhere for treatment. Students who will be absent from the University for valid social reasons should inform the Dean of Students who will inform the Dean of the Faculty.

Some courses in the Faculty are given on block; students who miss such courses, either entirely or a substantial part (more than 25% of the lectures) will not be permitted to sit the final assessments for those courses.

All students are expected to follow the general rules of academic honesty. Research and fieldwork papers should be the work of each individual. Papers that are copied will not be marked.

Students who have problems, either academic or otherwise, should in the first instance consult with their Academic Advisor. Problems that cannot be solved at that level should then be addressed to the Faculty Dean or Dean of Students, who may bring the matter to the University Administration.

All students are reminded that Uganda Martyrs University upholds a policy of non-discrimination, especially on the grounds of religion, social status, sex, race, nationality, tribe or disability. Students who do not comply with University policy will face strict disciplinary action.

PROJECTS, RESEARCH PAPERS AND DISSERTATIONS

BSc students must write and submit a dissertation on an approved subject as part of the degree programme. The BSc IT students will design an IT project as part of the degree programme. They will be required to attend *an oral session* in defence of the dissertation

before the degree is awarded which will contribute 20% and the report will contribute 80%.

Only dissertation that score 75% and above will be passed onto the library after making the necessary corrections and students should note that the final copy must be original.

Students who do not submit by the date specified must seek permission from the Dean to resubmit and a late submission fee determined by the Chief Finance Officer will be charged.

Further information and guidelines regarding the presentation of research papers, practical projects, and dissertations shall be distributed at the beginning of the academic year.

COURSES CURRICULA

Diploma in Computer Science and Information Technology

Diploma in Computer Science is a two-year course designed to provide students with both practical and theoretical knowledge of different aspects of computers and computing. Graduates of the programme are encouraged to apply for the degree in IT. Graduates with FIRST CLASS and SECOND UPPER Diplomas will be admitted to second year of BSC (IT).

Bachelor of Science Degree

One of the main tasks of the Faculty of Science is providing a Bachelor of Science degree in the fields of Mathematics, Economics, Statistics and Computer Science. The graduates are encouraged to undertake a Diploma in Education once they have completed their undergraduate studies so as to widen their area of profession.

The curriculum aims at offering a smooth transition from school courses to university-level courses. In order to train an all-round educator or technical professional, the degree course will impart a high level of skills in a wide range of branches in Mathematics, Economics, Statistics and Computer Science in a 4/3-2-2 degree scheme. Second and third year students are encouraged to opt for courses that are outside of their chosen fields but relevant to these fields. In this way, our graduates can make an effective contribution to national development in a variety of fields. It also aims at promoting adventure and discovery in learning and teaching so that they are equipped to cope with their environment more effectively and imaginatively.

The Faculty and the University, also recognises the need for students to acquire an understanding of the ethics of the profession for which they are preparing themselves, and therefore, certain courses offered by the Institute of Ethics and Development Studies will be compulsory for all students. The choice of courses will be subject to the approval of the academic staff of the Institute in agreement with the academic staff of the Faculty of Science.

Bachelor of Science Degree in Financial Mathematics

The Bachelor of Science degree in Financial Mathematics is designed in recognition of the fact that there is a public need for graduates in such organisations and institutions as Commerce, finance, banking, insurance, investment, etc, which graduates in traditional mathematics, are not well prepared to meet. This study program aims at producing quantitative / mathematical finance specialists for such institutions.

Bachelor of Science Degree in Information Technology

Computers and Information Technology play an increasingly important role in the growth of organisations. Quick access to vast amounts of information determines the success of an enterprise. IT has, as a result, become indispensable for this task.

The growth of Information and Communication Technology (ICT) in Uganda has led to a need to fill in a gap of Information Technology professionals to be able to optimally use the available technology.

The Bachelor of Science in Information Technology offered by the Faculty of Science of Uganda Martyrs University strives to fill in this need by producing IT professionals through the BSc IT program. The program emphasizes practical skills in the various aspects of IT. The course also ensures that students get the necessary background knowledge on the subject matter covered.

This course trains students to become competent IT professionals in the various fields ranging from highly technical system administrators, in charge of running the entire computer systems, Network Administrators, Security Administrators, Developers, Migration specialists, Educationists, Trainers, Database Administrators and also Designers of complex ICT projects.

Practical courses combined with solid theoretical knowledge and access to a large electronic library and various professionals from academia and industry ensure that graduates under this course are of world standard.

REGULATIONS GOVERNING COURSE COMPLETION

A. ATTENDANCE

1. Students' performance shall be evaluated and assessed in their courses by attending all lectures and signing the attendance all the time.
2. A student who will attend less than 75% will not be allowed to sit for final assessment. This will constitute to a direct RETAKE in that specific course unit.

B. ASSESSMENT

1. Students' performance shall be evaluated and assessed in their courses by at least three assessments, i.e. at least two continuous assessments during the course, and a final assessment held during Assessment Weeks.
2. A student is deemed to have successfully completed a course if s/he has received at least 50% of the marks with respect to course work and at least 50% of the marks in the final assessment. If either of the two limits is not attained, the student is considered to have failed the course.
3. Course work or continuous assessment shall normally contribute 50% of the total mark and final assessment contributes the other 50%.
4. Course work marks shall be computed on the basis of a minimum of two exercises, essays, assignments, tests, seminars, orals or any other mode of continuous assessment that the Faculty Board may approve and deem effective.
5. There shall be University Final Assessments in all the courses offered during each academic year. Final assessments of courses offered during a semester shall be done in the assessment weeks of that semester. Visiting or part-time lecturers may set their papers and assess candidates when they complete their courses.
6. Students, who attempt to compromise their academic integrity by cheating in University assessments, will not be permitted to complete assessments in that session, and will be subject to disciplinary sanctions, including expulsion from the University.

C. PASS MARK

1. The pass mark in each course shall be 50%.
2. A student is deemed to have passed the year if s/he obtains at least 50% of the marks in each of the courses individually.
3. All students at the undergraduate level shall be required to follow courses in English Language Grammar and Composition, Communication Skills, Critical Language Skills and Business English. In addition, they will take courses in Introduction to

Ethics, Ethics in Focus, and Science, Economics/Technology and Ethics. All will be marked as per sub-section (1) and (2) above.

D. PROMOTION

In normal circumstances, a student should pass all course units to proceed to the next year of study.

E. SPECIAL EXAMINATIONS/ASSESSMENTS

1. A student, who is unable to do any final assessment during Assessment Weeks due to a medical condition (as may be testified by an approved Medical Practitioner/University Nurse) or other reasons that shall be considered by the Faculty Board and the Senate in their absolute discretion as genuine, may be allowed to take a special examination in each of the courses involved before being promoted to the next year of study and for a student in the third year, before being awarded a degree. In such cases, the actual mark gained will be put on the transcript.
2. Students who have failed to pay outstanding fees by Reading Week will not be allowed to take their Final Assessments at that time. Such students are advised to apply for Special examinations which will be given after paying the outstanding fees.
3. Special examinations are held in August prior to the start of the next Academic Year.
4. Students who are sick during the final assessment period are advised that if they sit a final assessment and fail the course, they will normally be required to take a supplementary examination. However, besides each course passed through this channel, the letter (S) will be put to signify the fact that the course was passed after a supplementary.
5. All students with valid medical or social reasons during time of continuous assessments are required to submit documentation to the Dean's office in support of their case. Valid social reasons must be attested to by the Dean of Students, i.e. students must report to the Dean of Students before leaving campus. This in turn must be reported to the Faculty Dean. Students who do not inform university authorities in advance normally cannot do so after the said absence.

6. Students who for valid medical or social reasons miss a continuous assessment will be allowed to do a different assessment to make up for that missed. However, if a student does not have a valid medical or social reason for missing such assessments they shall receive zero on said assessments.

F. BORDERLINE CASE

A student who has passed all of her/his courses except for **one** in which s/he received 48.0-49.9% in end of semester assessment, will have attendance and general participation in courses and class-work taken into consideration. That student may be allowed to proceed to the next year of study and the mark on the transcript will read 50%.

G. TAKING SUPPLEMENTARY EXAMINATIONS

1. In the event where a student scores between 30% and less than 50% (in final assessment) in one or more courses, s/he will be required to take a supplementary examination of the failed course(s) including those, which may be within the range of 48.0-49.9% save for (E) above. To pass a supplementary exam, a student must receive at least 50% on the said examinations.
2. A student may take supplementary examinations in a maximum of one-third of the total number of courses in the given academic year.
3. Students who are sick during time for assessment exercises are advised that if they complete the assessment and fail the course they will normally be required to take a supplementary examination (if the score is between 30% and 50%) or will repeat the course if the score is less than 30%.
4. In all cases the final assessment mark after a supplementary examination will be reduced to 50% and added to the course work to determine the course mark. However, the letter (S) will be put beside such a subject on the transcript to signify the fact that the subject was passed after a supplementary.

H. RETAKE

A student who scores less than 50% in a coursework, or a student who scores less than 30% in a final assessment, or a student who fails a supplementary, will be required to retake that subject when next offered in the following academic year. A student with only ONE failed course in a semester may be permitted to proceed to the next year of study, but will be required to retake the failed course in the immediate semester when such a course is offered (this may attract a payment if the timetable does not permit such a student to attend lectures for the retake). If a student has two or more failed courses in a semester, such a student will not be permitted to proceed to the next year of study until s/he passes the failed courses. The abbreviation (RET) will be put beside such a subject on the transcript to signify the fact that the subject was passed after a retake.

A student who absconds from doing final assessment will automatically be required to repeat the course unit whose examination s/he absconded from.

I. REPEATING A YEAR

A student may be permitted to repeat the year at the discretion of the Faculty Board and Senate if:

- (i) There are special or medical circumstances such as to convince the Board of his/her academic merit and circumstances are such that the student is likely to do well if this concession is granted.
- (ii) S/he fails more than one-third but not more than half the courses in that academic year.

J. DISCONTINUATION

A student normally shall be required to discontinue his/her studies if:

- S/he fails more than half of the courses in that academic year.
- S/he fails a coursework of a RETAKE or s/he fails a supplementary examination of a RETAKE.
- A student who fails to take a Final Assessment or a Supplementary or a Special examination without previously informing the University with a valid reason.

No student will normally be allowed to spend more than 5 years in a 3-year

Programme.

K. EXAMINATION BOARD

The decision of the Faculty Board is final in all matters concerning the assessment of courses. However, in extreme circumstances, an appeal can be made to Senate where the Registrar deems it necessary. The decision of Senate in all matters of appeal shall be final.

L. FINANCES

1. All student fees must be paid by the seventh week of the Semester.
2. A student who has not paid fees by the seventh week must vacate the campus and not return until the said fees is paid. As a result, they will have to take special examinations in August as their final assessment.
3. All students who have to do supplementary examinations will pay an examination fee of 40,000/= per exam (The University reserves the right to change this fee for a given AY)
4. Students who withdraw from the University or who are discontinued from studies are required to settle all outstanding bills with the Finance Department and return their Identity Card to the Registrar's Office.
5. Students who have outstanding bills at the end of the academic year will not receive assessment results until all accounts are paid in full. Before a final degree or certificate can be awarded, all students are required to settle outstanding accounts.

M. CLASSIFICATION OF DEGREE

- (i) The Bachelor's degree is awarded after taking into account the results of all the courses in all the years and comprises the following components:

Year I courses: 1/6 of Year 1 Grade Point Average, GPA

Year II courses: 2/6 of Year 2 Grade Point Average, GPA

Year III courses: 3/6 of Year 3 Grade Point Average, GPA

The CGPA (at the end of final year) will be calculated as follows:

$$\text{CGPA} = 1/6 * \text{GPA of Year I} + 2/6 * \text{GPA of Year II} + 3/6 * \text{GPA of Year III}.$$

(ii) The Bachelor's degree shall be classified as follows:

<i>Class</i>	<i>CGPA</i>
First Class Honours	4.40 - 5.00
Second Class Honours (Upper)	3.60 - 4.39
Second Class Honours (Lower)	2.80 - 3.59
Pass	2.00 - 2.79

Description

Mark (%)	Grade	GPA
90 - 100	A+	5.0
80 - 89.9	A	5.0
75 - 79.9	B+	4.5
70 - 74.9	B	4.0
65 - 69.9	B-	3.5
60 - 64.9	C+	3.0
55 - 59.9	C	2.5
50 - 54.9	C-	2.0

Any score below 50% is a FAILURE.

(iii) A student who repeats a year will have the actual mark obtained shown on his/her transcript with the word REPEAT printed beside that year's CGPA.

(iv) A student who is required to repeat the third year of study shall NOT be eligible for the award of a degree with honours, and gets a PASS degree.

N. CLASSIFICATION OF THE DIPLOMA

A diploma is awarded after taking into account the results of all the courses in all the years and comprises the following components:

Class One / Distinction:	75 and above
Class Two / Credit:	60 - 74.9
Class Three / Pass:	50 - 59.9

CGPA shall be classified as follows:

Class	CGPA
Distinction	4.40 - 5.00
Credit	3.00 - 4.39
Pass	2.00 - 2.99

O. ILLNESS DURING THE THIRD YEAR ASSESSMENTS

AEGROTAT DEGREE *without honours*

When a student has successfully completed first semester of final year, taken two assessments of each course in the second semester of final year, and is unable to take the final assessments in the courses in second semester due to medical conditions (as certified by an approved medical practitioner), the Senate, on the recommendation of the Faculty Board, may at its discretion and upon receipt of an application from the student recommend the award of the degree or diploma aegrotat provided that the student's marks in the continuous assessments are such as to show that s/he would have been very likely to pass had s/he completed the final assessments. The aegrotat degree shall be awarded without honours.

PROGRAMME STRUCTURE

Diploma in Computer Science and Information Technology

Year 1

Semester I:

Code	CU	Course Name
DIPS 1101	3	Introduction to Introduction to IT I
DIPS 1102	3	Basics of Computing Mathematics
DIPS 1103	3	Introduction to Programming

DIPS 1104	3	Computer Architecture
DIPS 1105	3	Introduction to Operating

Semester II:

Code	CU	Course Name
DIPS 1201	3	Introduction to IT II
DIPS 1202	3	Web Authoring (HTML and other EDITORS)
DIPS 1203	3	Computer Maintenance and Trouble Shooting
DIPS 1204	3	Discover One (Networking Basics)
DIPS 1205	3	Database Planning and Management

Year 2

Semester I:

Code	CU	Course Name
DIPS 2101	3	Language and Communication Skills
DIPS 2102	3	Entrepreneurship and innovation
DIPS 2103	3	Introduction to System Administration and configuration
DIPS 2104	3	Programming Methodology II (PHP)
DIPS 2105	3	Introduction to System Analysis and Design

Semester II:

Course code	CU	Course Name
DIPS 2201	3	Development Research Project (Individual)
DIPS 2202	3	Computer Graphics and Animation
DIPS 2203	3	ISs E-Business & E-Commerce Fundamentals
DIPS 2204	3	Ethics in an IT Environment
DIPS 2205	3	Programming Methodology III (VB.Net)

CU stands for Credit Units – a weighting system for grading

Bachelor of Science (General)

The programme name is Bachelor of Science (BSc) with several combination choices namely:

1. BSc Economics and Statistics
2. BSc Economics and Mathematics
3. BSc. Economics and Computer Science
4. BSc. Computer Science and Statistics
5. BSc. Computer Science and Mathematics
6. BSc. Mathematics and Statistics

Rationale of the Programme

The programme will give students the opportunity to acquire generic skills necessary for employment related to the specific areas of study. In particular students will learn to exercise initiative and personal responsibility, and deploy decision making skills acquired in their period of study. They will also, in their course of study, learn to communicate information, ideas, problems and solutions in a variety of ways to a variety of audiences according to their specialization.

Duration of the Programme

The duration of the programme is three academic years consisting of six semesters on a full time basis. Each Academic Year has two semesters and each semester lasts seventeen (17) weeks, two (2) of which are for examinations.

Programme Objectives

The objectives of this programme are to:

- i. Introduce students to the major branches of mathematics, statistics, computer science and economics according to their specific choices.
- ii. Impart an awareness of the values of research and scholarship in mathematics, statistics, computer science and economics.
- iii. Provide a thorough training in the intellectual skills and advanced techniques of Science and Technology.
- iv. Develop the ability of students to abstract and generalize, to model various phenomena, and to interpret numerical and empirical data.

- v. Enable the student to develop the skills associated with problem solving, rigorous argument and communication.
- vi. Educate students to meet the needs of employers, including those in industry, finance, education and the public services.
- vii. Enable students to embark on research in area of mathematics, statistics, computer science and economics.

THE CURRICULUM (GEN)

FIRST YEAR - SEMESTER I:

Code	Course Name	CH	CU
Economics			
ECO 1101	Microeconomics I	60	4
Computer Science			
CSC 1101	Introduction to Computer Science and Information Technology	45	3
CSC 1102	Internet Technologies and Web page Authoring	45	3
Mathematics			
MTC 1101	Calculus I	45	3
MTC 1102	Elements of Mathematics	45	3
Statistics			
STA 1101	Introduction to Statistics	45	3
STA 1102	Statistical Organisation	45	3
Common Courses			
ENG 1101	English Language Grammar	45	3
Total CUs			25

FIRST YEAR - SEMESTER 2

Code	Course Name	CH	CU
Economics			
ECO 1201	Macroeconomics I	60	4
ECO 1202	Principles of Development Economics	60	4
Computer Science			
CSC 1201	Programming and Methodology I (OOP - C++)	45	3
CSC 1202	Operating Systems (Windows/UNIX/Linux)	45	3
Mathematics			
MTC 1201	Calculus II	45	3
MTC 1202	Ordinary Differential Equations (ODE) I	45	3
Statistics			
STA 1201	Time Series and Index Numbers	45	3

STA 1202	Elements of Probability	45	3
Common Courses			
PIE 1201	Introduction to Ethics*	45	3
LIT 1202	Literature and Composition*	45	3
COC 1201	Research Methodology I*	45	3
Total CUs			

SECOND YEAR- SEMESTER 1

Course Code	Course Name	CH	CU
Economics			
ECO 2101	Microeconomics II	60	4
ECO 2102	Mathematics for Economists	60	4
ECO 2103	Labour Economics	60	4
Computer Science			
CSC 2101	Object - Oriented Programming with JAVA I	45	3
CSC 2102	Database Planning, Design and Management I	45	3
CSC 2103	Programming Algorithms and Data Structures	45	3
Mathematics			
MTC 2101	Calculus III	45	3
MTC 2102	Linear Algebra	45	3
MTC 2103	Real Analysis I	45	3
Statistics			
STA 2101	Introduction to Non-Parametric Statistics	45	3
STA 2102	Statistical Quality Control	45	3
Common Courses			
COC 2101	Research Methodology II	45	3
COS 2101	Communication Skills	45	3

Total CUs	
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SECOND YEAR - SEMESTER 2

Course Code	Course Name	CH	CU
Economics			
ECO 2201	Macroeconomics II	60	4
ECO 2202	Econometrics I	60	4
ECO 2203	Economics of Agriculture	60	4
Computer Science			
CSC 2202	Systems Analysis and Design	45	3
CSC 2203	Computer Communication Networks and Systems Administration	45	3
CSC 2204	Computer Graphics and Animation	45	3
Mathematics			
MTC 2201	Partial Differential Equations (PDE)	45	3
MTC 2202	Linear Programming	45	3
Statistics			
STA 2201	Probability Theory	45	3
STA 2202	Time Series and Regression Analysis	45	3
Common Courses			
PEF 2201	Ethics in Focus	45	3
CLS 2201	Original and Critical Language skills	45	3

THIRD YEAR- SEMESTER 1

Course Code	Course Name	CH	CU
Economics			

ECO 3101	Advanced Microeconomic Analysis	60	4
ECO 3102	Economic Development, Policy and Planning	60	4
ECO 3103	International Economics	60	4
Computer Science			
CSC 3101	Programming Methodology III with Visual Basic	45	3
CSC 3102	Database Planning Design and Management II	45	3
Mathematics			
MTC 3101	Numerical Analysis I	45	3
MTC 3102	Real Analysis II	45	3
MTC 3103	Complex Variables	45	3
Statistics			
STA 3101	Statistical Inference and Data Analysis	45	3
STA 3102	Experimental Design and Industrial Statistical Modelling	45	3
STA 3103	Statistical Computing	45	3
Common Courses			
BEN 3101	Business English	45	3

THIRD YEAR- SEMESTER 2

Course Code	Course Name	CH	CU
Economics			
ECO 3201	Intermediate Macroeconomic Theory	60	4
ECO 3202	Econometrics II	60	4
ECO 3203	Money, Banking and Public Finance	60	4
Computer Science			
CSC 3206	Principles, Protocols and Architecture of	45	3

	TCP/IP		
CSC 2204	Web-based Database Development	45	3
Mathematics			
MTC 3201	Numerical Analysis II	45	3
Statistics			
STA 3201	Sampling Theory	45	3
STA 3202	Demographic and Social Statistics	45	3
STA 3203	National Income Accounts	45	3
Common Courses			
COC 3201	Science, Economics & Ethics	45	3
COC 3202	Dissertation	60	4

Bachelor of Science (Financial Mathematics)

The programme name is Bachelor of Science (Financial Mathematics), BSc (FM).

Rationale of the Programme

The Bachelor of Science degree in Financial Mathematics is designed in recognition of the fact that there is a public need for graduates in such organisations and institutions as commerce, finance, banking, insurance, and investment which traditional mathematics graduates are not well prepared to meet. This study program aims at producing quantitative / mathematical finance specialists for such institutions. The programme was re-accredited by the NCHE in 2011.

In the 21st century, institutions aim to be increasingly demand led, responsive to cultural and economic change, and capable of providing opportunities for learners to acquire both knowledge and skills for employability and lifelong learning accordingly.

For any curriculum to remain relevant, it must be regularly reviewed to reflect prevailing changes. In Financial Mathematics, there are quite rapid technological improvements that require frequent updates by institutions offering such programmes to maintain its relevance to society, hence this review.

Duration of the Programme

The duration of the programme is three academic years consisting of six semesters on a full time basis. Each Academic Year has two semesters and each semester lasts seventeen (17) weeks, two (2) of which are for examinations.

Programme Objectives

The objectives of this programme are to:

- i) Develop professionals with theoretical and practical skills in the Financial Mathematics sector.
- ii) Train and address the increasing demand for Financial Mathematics specialists.

- iii) Strengthen the human resource capability in Financial Mathematics and Investment Science discipline in the private and public institutions.
- iv) Forge a strategic alliance between industry and university in order to bridge the gap between theory and practice in relation to mathematical/quantitative finance.
- v) Introduce the students to research in Financial Mathematics and Quantitative Finance related fields.

Programme Learning Outcomes

By the end of this programme, students should be able to:

- i) Translate theoretical principles learned into practical solutions in the field of Financial Mathematics or Quantitative Finance at the work place.
- ii) Critically analyze/appraise an investment plan before making an investment decision, based on the financial implications for the investment.
- iii) Acquire both knowledge and skills for employability in the field of Financial Mathematics both in public and private sectors.
- iv) Develop morally upright products with a high level of integrity in their daily lives.
- v) Transfer the knowledge attained in their study area into the day-to-day ethical issues they face at their work places.

THE CURRICULUM (FM)

FIRST YEAR: SEMESTER I

Code	Course Name	CH	CU
ECO 1101	Microeconomics I	60	4
MTC 1101	Calculus I	45	3
MTC 1102	Elements of Mathematics	45	3
MTF 1101	Introduction to Financial Mathematics	45	3
MTF 1102	Fundamentals of Accounting I	45	3
CSC 1101	Introduction to Computer Science and IT	45	3
STA 1101	Introduction to Statistics	45	3
STA 1102	Statistical Organisation	45	3

ENG 1101	English Language Grammar	45	3
Total CUs			28

FIRST YEAR: SEMESTER II

Code	Course Name	CH	CU
ECO 1201	Macroeconomics I	60	4
MTC 1201	Calculus II	45	3
MTC 1202	Ordinary Differential Equations	45	3
MTF 1201	Introduction to Capital Markets	45	3
MTF 1202	Fundamentals of Accounting II	45	3
CSC 1201	Programming Methodology I C++	45	3
STA 1201	Time Series and Index Numbers	45	3
STA 1202	Elements of Probability Theory	45	3
COC 1201	Research Methodology I	45	3
LIT1201	Literature and Composition	45	3
PIE 1202	Introduction to Ethics	45	3
Total CUs			34

SECOND YEAR: SEMESTER I

Code	Course Name	CH	CU
ECO 2101	Microeconomics II	60	4
ECO 2102	Mathematics for Economists	60	4
MTC 2101	Calculus III	45	3
MTC 2102	Linear Algebra	45	3

MTC 2103	Real Analysis I	45	3
MTF 2101	Risk Management	45	3
CSC 2102	Database Planning and Management I	45	3
COC 2101	Research Methodology II	45	3
COS 2101	Communication Skills	45	3
Total CUs			29

SECOND YEAR: SEMESTER II

Code	Course Name	CH	CU
ECO 2201	Macroeconomics II	60	4
MTC 2201	Partial Differential Equations	45	3
MTC 2202	Linear Programming	45	3
MTF 2201	General Topology	45	3
MTF 2202	Introduction to Financial Engineering	45	3
MTF 2203	Management Accounting	45	3
STA 2201	Probability Theory	45	3
STA 2202	Time Series and Regression Analysis	45	3
PEF 2201	Ethics in Focus	45	3
CLS 2201	Original and Critical Language Skills	45	3
Total CUs			31

THIRD YEAR: SEMESTER I

Code	Course Name	CH	CU
ECO 3102	Economic Development, Policy and Planning	60	4
MTC 3101	Numerical Analysis I	45	3

MTF 3101	Corporate Finance and Portfolio Management	45	3
MTF 3102	Financial Mathematics	45	3
MTF 3103	Functional Analysis	45	3
MTF 3104	Financial Management I	45	3
STA 3101	Statistical Inference and Data Analysis	45	3
BEN 3101	Business English	45	3
COC 3101	Science, Economics and Ethics	45	3
Total CUs			28

THIRD YEAR: SEMESTER II

Code	Course Name	CH	CU
ECO 3203	Money, Banking and Public Finance	60	4
MTC 3201	Numerical Analysis II	45	3
MTF 3201	Stochastic Calculus	45	3
MTF 3202	Life and Non-Life Insurance Mathematics	45	3
MTF 3203	Financial Management II	45	3
MTF 3204	Financial Computing	45	3
MTF 3205	International Business and Finance	45	3
COC 3202	Dissertation		4
Total CUs			26

Bachelor of Science (IT)

Programme Name

The programme name is Bachelor of Science in Information Technology, (BSc IT).

Rationale of the Programme

The Bachelor of Science degree in Information Technology is designed in recognition of the fact that there is a public need for graduates in such organisations and institutions as commerce, finance, banking, insurance, and investment which traditional mathematics graduates are not well prepared to meet. This study program aims at producing quantitative / mathematical finance specialists for such institutions. The programme was re-accredited by the NCHE in 2011.

In the 21st century, institutions aim to be increasingly demand led, responsive to cultural and economic change, and capable of providing opportunities for learners to acquire both knowledge and skills for employability and lifelong learning accordingly.

For any curriculum to remain relevant, it must be regularly reviewed to reflect prevailing changes. In Information Technology, there are quite rapid technological improvements that require frequent updates by institutions offering such programmes to maintain its relevance to society, hence this review.

Rationale of the Programme

There is a global urge to embrace computer science and information technology to address the needs of the society. In the 21st century, institutions aim to be increasingly demand led, responsive to cultural and economic change, and capable of providing opportunities for learners to acquire both knowledge and skills for employability and lifelong learning accordingly. For any curriculum to remain relevant, it must be reviewed to reflect prevailing changes. In the field of Computer Science and Information Technologies, technological improvements are very fast both in hardware and software. Meanwhile new emerging technologies are being invented. Having run this programme for more than 5 years, one-year Diploma in Computer Science and Information Technology (Dip CSIT) curriculum for more than five years, the re-designed programme to two years will not only put emphasis on computer technologies but also entrepreneurship and ethics courses. The re-designed Dip CSIT is intended to produce technicians for jobs requiring either Computer Science or Information Technology backgrounds, or both. It also offers more options for further studies; students can pursue degree courses in either Computer Science or Information Technology.

Duration of the Programme

The duration of the programme will be two academic years consisting of four semesters for those enrol on full time and three years for those enrol on part time. Each semester lasts seventeen (17) weeks, three (3) of which are for examinations.

Programme Objectives

Main objective:

This programme aims at producing professionals who will be able to direct organisational use of IT and steer ICT implementations.

Specific objectives of this programme are to:

- vi) Develop professionals with theoretical and practical skills in the Information and Technology sector.
- vii) Foster job creation and ICT innovations

- viii) Develop professionals with theoretical and practical skills in the Computer Science and Information Technology sector.
- ix) Train and address the increasing demand for Information Communication Technology professionals.
- x) Strengthen the human resource capability in Computer Science and Information Technology discipline in private and public institution.
- xi) Explore the use of Computer Science and Information Technology in business sector.
- xii) Introduce the students to research in Computer Science and Information Technology related fields.
- xiii) Produce competent, highly-motivated and morally upright Computer Science and Information Technology specialists.
- xiv) Cultivate a sense of social, practical and professional code of conduct as Computer Science and Information Technology specialists.

Programme Learning Outcomes

By the end of this programme the student should be able to:

- vi) Translate theoretical principles learned into practical solutions in the field of Computer Science and Information Technology at the work place.
- vii) Developed and applied professionalism and train others in using, computers in business and information communication technologies

- viii) Developed learners to acquire both knowledge and skills for employability in the field of Computer Science and Information Technology.
- ix) Evaluate, analyse and suggest Computer Science and Information Technology solutions to the needs of business enterprises.
- x) Developed good research, presentation and data-analysis skills.
- xi) Developed morally upright products with a high level of integrity in their daily lives.
- xii) Transfer the knowledge attained in their study area into the day-to-day ethical issues they face at their work places.

THE CURRICULUM (IT)

FIRST YEAR: SEMESTER 1

Code	Course Name	L	P	CH	CU
CSC 1101	Introduction to Computer Science and Information Technology	30	15	45	3
CSC 1102	Internet Technologies and Web Page Authoring	45		45	3
CSC 1103	Discrete Mathematics	45		45	3
CSC 1104	Programming Data Structures and Algorithms	45		45	3
CSC 1105	Computer Graphics and Animations	30	15	45	3
ENG 1101	English Language Grammar	45		45	3
MTC 1102	Elements of Mathematics	45		45	3
Total CUs					21

FIRST YEAR: SEMESTER 2

Code	Course Name	L	P	CH	CU
CSC 1201	Development Group Project I	45		45	3
CSC 1202	Programming Methodology I (Object-Oriented Programming with C++)	45		45	3
CSC 1203	Systems Administration and Computer Maintenance	45		45	3

CSC 1204	CISCO I: Introduction to Networks	45		45	3
PIE 1102	Introduction to Ethics	45		45	3
LIT 1201	Literature and Composition	45		45	3
COC 1201	Research Methodology I	45		45	3
Total CUs					21

SECOND YEAR: SEMESTER 1

Code	Course Name	L	P	CH	CU
CSC 2101	Programming Methodology II (Object-Oriented with Java)	45		45	3
CSC 2102	Database Planning, Design and Management I	45		45	3
CSC 2103	Operating Systems	45		45	3
CSC 2104	CISCO II: Routing and Switching Essentials	45		45	3
CSC 2105	Computer Hardware Maintenance and Trouble Shooting	45		45	3
COS 2101	Communication Skills	45		45	3
COC 2102	Research Methodology II	45		45	3
Total CUs					21

SECOND YEAR: SEMESTER 2

Code	Course Name	L	P	CH	CU
CSC 2201	Systems Analysis and Design	45		45	3
CSC 2202	Web-based Database Programming (PhP)	45		45	3
CSC 2203	Database Planning, Design and Management II	45		45	3
CSC 2204	CISCO III: Scaling Networks	45		45	3
CSC 2205	Development Group Project II	45		45	3

CLS 2201	Original and Critical Language Skills	45		45	3
PEF 2201	Ethics in Focus	45		45	3
CSS 2207	Industrial Training	60			4
Total CUs					25

THIRD YEAR: SEMESTER 1

Code	Course Name	L	P	CH	CU
CSC 3101	Programming Methodology III (Visual Basic .NET)	45		45	3
CSC 3102	Electronic Commerce	45		45	3
CSC 3103	Business Intelligence and Enterprise Systems	45		45	3
CSC 3104	CISCO IV: Connecting Networks	45		45	3
CSC 3105	Managing IT Projects	45		45	3
BEN 3101	Business English	45		45	3
Electives for IT and General:					
CSC 3106	Business Intelligence and Data Mining	45		45	3
CSC 3107	Mobile Application Development	45		45	3
Total CUs					21

THIRD YEAR: SEMESTER 2

Code	Course Name	L	P	CH	CU
CSC 3201	Information Assurance and Cyber Security	45		45	3
CSC 3202	Software Engineering	45		45	3
CSC 3203	Entrepreneurship	45		45	3
CSC 3204	Science, Technology & Ethics	45		45	3
CSC 3205	Research Project	60		60	4

Total CUs	16
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Feel free to consult the Dean, the Associate Dean and Head of Departments for clarification on any issues concerning your study.

Dean
Faculty of Science
Uganda Martyrs University

September, 2016.