KENYA METHODIST UNIVERSITY
Department of Mathematics and Computer Science

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BACHELOR OF SCIENCE IN
MATHEMATICS AND COMPUTER SCIENCE

Academic Programme

2. PROGRAMME OFFERED

2.0 INTRODUCTION

Mathematics is both a language and a science.   As a language, mathematics is used to translate relationships within the universe into mathematical models (expressions   and equations).   As a science mathematics is concerned with computation   but   more   importantly,   with   the study   of   relations, interdependencies   and inferential structures.

Computer Science   is the study of processes   and machines   that describe and transform information.   The roots of Computer   Science extend deeply into mathematics and engineering. Mathematics contributes methods   of analysis and engineering provides methods   of design.   The discipline of Computer   Science was boom in the early 1940's with the joining of algorithm theory, mathematical logic and the invention of electronic computer.

Mainly the joining together   of Mathematics   and Computer   Science knowledge has developed modem technology.   It is therefore important   that the users and beneficiaries of that technology have a solid knowledge of both components, mathematics   and computer   science. This knowledge will help them to better appreciate   the technology at hand and, more importantly, to use it much more efficiently.   Our students of mathematics and computer science will certainly be important   users of this technology.   Our programme   aims to equip them with a strong base, which should   enable them not only to appreciate and use the technology more efficiently but also to eventually improve it

The programme   of study leads to the academic degree of Bachelor of Science in Mathematics and Computer Science (BSc).   The programme   offers four options of concentration: two in Mathematics (Applied Mathematics and Statistics) and   two   in   Computer   Science (Software   Engineering and   Computer Networking).

2.1   OBJECTIVESOF THE PROGRAMME

People use compute.rs to perform a variety of tasks depending on the level of training they received The tasks vary from using word processors   to the use of sophisticated programs to design and develop new products.   But to fully appreciate and take full advantage of integrated software like Mathematica that is widely used today in financial modeling, education planning and analysis and other, one needs to have skills and knowledge of both Mathematics   and Computer   Science. To participate in training of scientists who can use computers   to solve mathematically based problems in natural sciences, social sciences and engineering, the Department of Mathematics and Computer Science (MAC) has developed a degree programme which combines and privileges both disciplines.

The specific objectives of the programme are to produce a graduate who will:

Work comfortably in a computerized mathematical   environment

Be adequately prepared for post-graduate study in either Mathematics or Computer Science. Option courses in the third and the fourth year are intended to help reach this objective.

2. 2 ADMISSION REQUIREMENTS

The programme is open to all those with C+ in the Kenya Certificate of Secondary Education (KCSE) or equivalent qualifications. In addition, the student should have attained not less than C+ in Mathematics and C in Physics in KCSE. But those who qualify for university admission and have not attained the required grades in Mathematics and Physics will be required to take the bridging courses MATH 004 for Mathematics and PHYS 003 for Physics prior to the full admission in the department of MAC. Those who never took Physics will be required to take PHYS 001 and 002.