FACULTY OF COMPUTER SCIENCE AND ENGINEERING

CURRICULUM

FOR

POSTGRADUATE PROGRAMMES

(Master in Information Technology)
1.1 Introduction

This programme is a professional one that is designed to meet the requirement of the Information Technology Managers. Its primary objective is to train Social Scientists and Engineers to become experts in Information Technology Management. The course is intended to be industry-oriented in focus and state of the art oriented in academic intensity.

1.2 Objectives

The primary objectives include the following amongst others:

(i) To train prospective managers of Information Technology based Services.

(ii) To enable prospective Systems managers have a critical understanding of the theories that underline the effective management of information system in both private and public sectors;

(iii) To train prospective managers who would be able to adapt with ease and to complete favourably with the rapidly changing global trends in Information and Communication Technology (ICT).
1.2 **Degree Offered and Duration**

The degree shall be referred to Masters in Information Technology (MIT). The programme duration shall span between Two (2) academic sessions and maximum of Three (3) academic sessions.

1.4 **Area of Specialization**

Being a specialized professional course, students are expected to pass the entire course of instruction. However, they would be expected to identify a technology related problem/computational task either in Computer Technology, Communication Technology or hybrid of the two technologies and subsequently proffer solutions as their final individual research project.

1.5 **Admission Requirements**

a) Candidate having Bachelor’s degree of this institution or other approved University of high academic repute with a minimum of Second Class Honours (Lower division).

b) Candidates having a minimum of 60% average in Postgraduate Diploma Certificate from this University or any other recognized university of high academic repute.

c) Candidates having final examinations results of Computer Professional Registration Council of Nigeria (CPN), Council for the Regulation of
Engineering in Nigeria (COREN) and other registered bodies as approved by the National Universities Commission.

1.6 Programme Requirements

In order to be eligible to obtain a MIT Degree, a candidate must satisfactorily complete a total minimum of 31 units made up as follows: 27 Units of Core Course; and 4 Units of Project.

COURSE CURRICULUM

<table>
<thead>
<tr>
<th>COURSE CODE</th>
<th>COURSE TITLE</th>
<th>L- T- P</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIT 701</td>
<td>Computation Fundamental</td>
<td>2 – 1 – 0</td>
<td>3</td>
</tr>
<tr>
<td>MIT 703</td>
<td>Digital Computer Logic</td>
<td>2 – 1 – 0</td>
<td>3</td>
</tr>
<tr>
<td>MIT 705</td>
<td>Operating System &amp; Software Package</td>
<td>1 – 1 – 6</td>
<td>3</td>
</tr>
<tr>
<td>MIT 707</td>
<td>Principle of Computer Architecture</td>
<td>2 – 1 – 0</td>
<td>3</td>
</tr>
<tr>
<td>MIT 702</td>
<td>Structured Programming Using Pascal</td>
<td>2 – 1 – 0</td>
<td>3</td>
</tr>
<tr>
<td>MIT 704</td>
<td>Management Information &amp; System</td>
<td>2 – 1 – 0</td>
<td>3</td>
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<tr>
<td>MIT 706</td>
<td>Information Technology Centre Management</td>
<td>2 – 1 – 0</td>
<td>3</td>
</tr>
<tr>
<td>MIT 709</td>
<td>Software Engineering Methodologies</td>
<td>3 – 1 – 0</td>
<td>3</td>
</tr>
<tr>
<td>MIT 711</td>
<td>Data Communication &amp; Computer Network</td>
<td>4 – 0 – 0</td>
<td>3</td>
</tr>
</tbody>
</table>
MIT 713  Current Trends in Information Technology  2 – 0 – 3  3

FOURTH SEMESTER

MIT 710  Individual Research Project  0 – 0 – 6  6

COURSE DESCRIPTION

MIT 701:  Computer Fundamentals  (3 Units)

Classification of Computer: Type categories and purpose. Historical Development/generation of computers. Store program concepts, Basic block diagram of a computer, Hardware, Software, Input Output devices, main memory, secondary Memory, disc, tape, bit, byte, Algorithm: Definition characteristics, components and construction; flowcharting, decision tabling.

Data processing mode, Time-sharing concept multi user system, real time processing, International Network of Computer Networks: Internet;


MIT 702:  Structured programming using Pascal  (3 Units)

Introduction to Flowcharting. Decision tables and Algorithm. An introduction to the basic concepts of computer programming. The programming language used will be Pascal. The course is supplemented by practical and tutorial classes. Program structures, keywords (standard identifiers, variables words etc.) in pascal. The building blocks (Structure) of
pascal programs. Control structure, simple and structured data types, and Modular programming, procedures and functions, Arrays, Recursion, and Record and File Structure, Set Structure. Introduction to pointers, introduction to object oriented programming.

MIT 703: Digital Computer Logic (3 Units)

Number System – Binary, Octal, decimal, hexadecimal etc. number complements, One’s two’s nine’s complements. Binary Coded Decimal etc. Introduction to Logic circuits; Elements of logic systems e.g. AND, or, NOT and NAND Gaton logic functions and I ruth tables. Application of Boolean Algebra to logic realization simplification using algebraic theorems and karnaugh maps; Electronic, Analysis and Design Techniques using standard ICs; Logic families and characteristics.

MIT 704: Management Information System (3 Units)

Step in – Systems Analysis. Techniques to Data Capture; Data Management, Security, Communication; System Maintenance; User-driven Design, Introduction to Management Informatics: structure, Analysis, Organization, Storage, Searching and Retrieval, Strategic Decision support systems, Different types of System e.g. Cybernetics system, computer Modes of processing, Database Management Systems.

MIT 705: Operating System and Software Packages (3 Units)
Introduction to Opening Systems (Os); Definition and functions of Operating Systems. Types: Single-user and Multi-User Operating System; DOS, UNIX, etc. Network opening System e.g. won NT Oracle. Introduction to use of DOS and Windows/Word processing. Spreadsheets, definition, factors to be considered in selection. Practical hand-on experience in one spreadsheet. Students are required to master very well the use of at least one spreadsheet of any other business/commerce oriented software package.

**MIT 706: Information Technology Centre Management  (3 Units)**

Information technology centre” basic need, types and operations of the centre; I.T policy/guidelines: legal perspective; Different approaches to office procedure and organization management; Personnel Development, Project Planning, control and Development strategies; Computer Systems Maintenance and Assembly. Data Organization, Ethical Issues, Information Systems Security and control Current trends in Internet Connectivity.

**MIT 707: Principle of Computer Architecture  (3 Units)**

Factors to be considered in purchasing a computer system, typical structural and functional specifications/characteristics of the digital system configuration. Organization and design of digital computing system,
description of current typical computing structures, CPU configuration and possible architecture soft/hardware trade-offs.

**MIT 709: Software Engineering & Methodologies (3 Units)**

Introduction to Software Engineering life cycle. Software Specifications and Standard Conformity, requirements, analysis. Design techniques and some specific approaches to system development design of real time systems and implementation. Quality Assurance: testing strategies, software reliability, software project management, configuration management, planning team management, documentation and standards, software support environment.

**MIT 710: Individual Research Project (3 Units)**

Each student will be expected to use the knowledge acquired in the M.I.T programme to solve a pragmatic problem. A critical analysis of a state-of-the art problem and industry-related problems. This course would afford individual student in the opportunity to try their hands on computational problems in related ITC fields in general, research projects undertaken may consist of design, review and or development of I.T. system; purely theoretical work is also allowed.

**MIT 711: Data Communication & Computer Networks (3 Units)**

Modeling of the control processing in computer and data communication networks. Switch network for telephony. Digital circuit switch, integrated

**MIT 712: Current Trends in Information Technology**  (3 Units)

This course encompasses current trends state-of-the-art and development in information and Communication Technology (ICT). Students are expected to submit a technical report in a specialized area.

**LIST OF TEACHING STAFF**

<table>
<thead>
<tr>
<th>S/N</th>
<th>NAME OF STAFF</th>
<th>STATUS AND QUALIFICATION</th>
<th>AREA OF SPECIALIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dr. E. O. Omidiora</td>
<td>Ag. Head/Senior Lecturer, BSc. MSc, Ph.D.</td>
<td>Artificial Intelligence, Soft Computing, Computer Vision and Computer Architecture</td>
</tr>
<tr>
<td>2.</td>
<td>Dr. J. O. Emuoyibohare</td>
<td>Postgraduate Coordinator, Senior Lecturer, B. Tech, M.Tech, Ph.D.</td>
<td>Computational Mathematics, Optimization, E-health, Grid computing and Artificial Intelligence and Soft Computing</td>
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<tr>
<td>3.</td>
<td>Prof. J. O. Bamigbola</td>
<td>Professor, BSc, MSc, Ph.D</td>
<td>Computational Mathematics, Complexity Theory and Optimization</td>
</tr>
<tr>
<td>4.</td>
<td>Prof. R. O. A. Ayeni</td>
<td>Professor, BSc, MSc, Ph.D</td>
<td>Computational Fluid mechanics</td>
</tr>
<tr>
<td>5.</td>
<td>Dr. O.A. Fakolujo</td>
<td>Senior Lecturer BSc, Ph.D</td>
<td>Microprocessor and Control Engineering</td>
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<tr>
<td></td>
<td>Name</td>
<td>Title and Qualifications</td>
<td>Specialization</td>
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<tr>
<td>6</td>
<td>Dr. G. A. Aderonmu</td>
<td>Senior Lecturer, BSc, Ph.D</td>
<td>Data Communication and Intelligent Systems, soft computing</td>
</tr>
<tr>
<td>7</td>
<td>Dr. S. O. Olabiyisi</td>
<td>Senior Lecturer, B. Tech, M. Tech, MSc, Ph.D</td>
<td>Computational Mathematics And Complexity Theory</td>
</tr>
<tr>
<td>8</td>
<td>Dr. O. T. Arulogum</td>
<td>Lecturer, I, B. Tech, MSc, Ph. D</td>
<td>Control Systems, Soft Computing, E-Nose Technology and Artificial Intelligence</td>
</tr>
</tbody>
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