

# **DEPARTMENT OF COMPUTER ENGINEERING**

## **POSTGRADUATE DEGREE PROGRAMMES**

### **INTRODUCTION**

The field of Computing is extremely broad and rapidly developing area of study with a very large number of exciting new advanced topics. Computer Engineering is a computing field which focuses on the application of computer science ideas to design and implement systems that have practical or theoretical applications. Graduates of Computer Engineering programme are expected to be able to design and implement systems that involve the integration of software and hardware devices, based on sound theoretical and scientific analysis of a problem. Also, the students in this program will be taken through the theory, methods and techniques of Artificial Intelligence such as the Turing Theory of Computing and Intelligence, Fuzzy Logic, Neural Networks, Genetic Algorithms as well as training in the investigation, analyses, design, implementation and evaluation of intelligent systems. The research in this area of specialization is strongly biased towards intelligent system engineering which occupies an important area in modern computer systems application. Computer Science and Engineering as well as Information and Communication Technology involve research into the Design of processor-based systems, Biometrics, Pattern Recognition, Image Analysis, Applications of Soft Computing techniques to Real-Life Systems, Modelling and Simulation of Physical Systems, Theoretical Computer Science, Computational and Software Complexity, Information Systems, Wireless Sensor Networks and Mobile Computing, Robotic, Speech Recognition, Speech Synthesis, Decision Support Systems, Knowledge Based Systems and Games.

### **Philosophy**

The postgraduate programmes in the department aim at producing effective experts in the field of computing. The programmes encompass educational frameworks from which graduates of Computer Engineering can develop, deepen or update their skills and knowledge in academically and/or industrially relevant areas of advanced Computer Engineering, Computer Science and Information Technology.

## **Objectives**

The specific objectives are to:

- (i) Train graduates to have a broad-based knowledge of Computer Engineering and develop specialized interests in specific areas of computing studies.
- (ii) Be abreast of the state-of-the-art practices in Computer Engineering.
- (iii) Provide manpower for industrial development, educational and research institutions in Computer Engineering.

## **Areas of Specialization**

The postgraduate programmes in Computer Engineering of the department are designed to be interdisciplinary. The main focus is to prepare individuals who possess adequate knowledge in hardware and software technologies to teach and practice Computer Science and Engineering courses in academic, industrial and related environments. Therefore, research specializations will be encouraged in any of the following areas:

- (i) Computer Hardware including pipelined systems and parallelism;
- (ii) Biometrics, Pattern Recognition, Image Analysis;
- (iii) Applications of Soft Computing techniques to Real-Life Systems;
- (iv) Modelling and Simulation of Systems;
- (v) Information Systems;
- (vi) Wireless sensor Networks and Mobile Computing;
- (vii) Software Engineering;
- (viii) Data Mining and Data Warehousing.

## **DEGREES OFFERED**

The department offers the following degrees:

- (i) Master of Technology (M.Tech.) (Computer Engineering);
- (ii) Master of Philosophy (M.Phil.) (Computer Engineering);
- (iii) Doctor of Philosophy (Ph.D) (Computer Engineering).

## **Master of Technology (M.Tech.) Degree Programme in Computer Engineering**

### **Admission Requirements**

The programme shall be open to candidates with a Bachelor of Technology (B.Tech) or equivalent in Computer Engineering of LAUTECH or any other recognized University with a minimum of Second Class Lower Division or equivalent. Also, candidates with Third Class Division or HND but with additional PGD certificate with a minimum of Upper Credit pass (i.e. CGPA of 3.50/5.00) or 60% weighted average in Computer Engineering may be considered. In addition, candidates must have satisfied the O-Level requirement i.e. Five O-Level credits passes in English, Mathematics, Physics, Chemistry and Biology.

### **Programme Duration**

The duration of the programme shall be a minimum of three (3) semesters and a maximum of six (6) semesters for full time students; a minimum of six (6) semesters and a maximum of nine (9) semesters for part-time students.

## **MASTER OF PHILOSOPHY (M. Phil.) DEGREE IN COMPUTER ENGINEERING**

### **Admission requirements**

Candidates who scored a weighted average greater than or equal to 50% but below 55% in M.Tech./M.Eng./M.Sc. degree programme in Computer Engineering from LAUTECH or any other recognized Universities shall be considered. Candidates shall also satisfy general requirements as stipulated in the regulations of the Postgraduate School.

### **Programme Duration**

The duration of programme shall be a minimum of four (4) semesters and maximum of six (6) semesters for full-time students; a minimum of six (6) semesters and maximum of nine (9) semesters for part-time students.

### **Additional Course (other applicable)**

While the M.Phil Programme is essentially research-oriented, candidates may be required to take additional course(s) as individual option may require a minimum of six (6) units per semester for the first and second semesters of the programme, based on the recommendation of the department.

### **Conditions for the award of degree**

- (i) A candidate for the M.Phil degree shall submit a thesis which shall embody the original research carried out substantially during the period of registration.
- (ii) The M.Phil thesis shall be examined by a panel of examiners in line with Postgraduate School regulation.
- (iii) The Master of Philosophy (M.Phil.) degree to be awarded by the Postgraduate School shall be classified as **M.Phil. Computer Engineering**.

### **M.Phil/Ph.D Conversion Programme**

A candidate with less than 60% weighted average but greater than or equal to 55% in the M.Tech/M.Eng/M.Sc degree programme in Computer Engineering from LAUTECH or any other recognized university shall be considered.

#### **Duration**

A candidate may be presented for conversion examination after three (3) semesters which is organized by the Postgraduate School.

#### **Arrangement of Courses**

In some cases, candidate for the M.Phil/Ph.D programme may be advised to audit some courses as may be prescribed by the Department.

#### **Condition for Conversion to Ph.D. registration**

Candidate will be required to sit for a Ph.D conversion examination after third semester. Candidate is expected to obtain at least 60% in the conversion examination. The conversion examination shall be conducted in accordance with the Postgraduate School regulations.

## **DOCTOR OF PHILOSOPHY (Ph. D.) DEGREE IN COMPUTER ENGINEERING**

### **Preamble**

The duration of the Ph.D degree programme is a minimum of six semesters. It is an independent research work which normally leads the candidate to specialize in one of Hardware designs, Information Systems, Pattern Recognition, Soft Computing, Petri Nets, Biometrics, Image Analysis, Soft Computing, Complexity Theory and Computability, Software Engineering, Data Mining and Data Warehousing, Health Informatics and Artificial Intelligence which shall be classified under Computer Engineering.

### **Admission Requirements**

- (i) Candidate with M.Tech/M.Eng/M.Sc Degree in Computer Engineering from LAUTECH or any other recognized university, who must have scored at least 60% or its equivalent in the final Master's degree shall qualify for admission into the Ph.D. Programme. Also, candidates who scored at least 60% in the final M.Tech Computer Science degree programme from LAUTECH with a B.Tech or equivalent degree in Computer Engineering may be considered for admission.
- (ii) Candidates who scored between 55 and 59% in their M.Tech/M.Eng/M.Sc Computer Engineering degree examinations shall be admitted for M.Phil/Ph.D Computer Engineering programme. He/she shall be converted to Ph.D programme after completing and passing some courses specified by the department and oral examination organized by the Postgraduate School.
- (iii) Candidates who scored at least 60% after a successful completion of M.Phil. Computer Engineering programme may be considered for Ph.D programme. In addition, all such candidates shall appear for an interview to be conducted by the department. Final admission depends on the recommendation of panel of the interview to the Postgraduate School board.

#### **Duration of Programme**

- (i) The duration of the programme shall be a minimum of Six (6) semesters and a maximum of ten (10) semesters for full-time students; a minimum of nine (9) semesters and maximum Fifteen (15) semesters for part-time students.
- (ii) On the expiration of the maximum duration, a candidate may apply for extension of not more than two consecutive periods of two semesters, after which the studentship shall lapse.

#### **Conditions for the award of degree**

- (i) No course work is required apart from the university postgraduate requirement for a Ph.D Degree. It is an independent research work which normally leads the candidate to specialize in Computer Engineering.
- (ii) Candidates shall be assessed within two semesters of registration by means of a comprehensive seminar to determine their progress and level of preparedness for continuation of the programme.

- (iii) Candidates will be required to present pre-data and post-data seminars on their Ph.D research topics. Satisfactory performance at the post-data seminar is a condition to recommend the candidate for Ph.D qualifying examination by departmental PG committee.
- (iv) The title of the thesis shall be submitted through the Faculty Postgraduate Committee to the Board of Postgraduate School for approval after a successful post-data seminar presentation.
- (v) After the approval of the thesis title by the Board of Postgraduate School, candidate will be scheduled for a Ph.D Qualifying Examination. Candidate is expected to obtain at least 60% in the qualifying examination. The qualifying examination shall be conducted in accordance with the Postgraduate School regulations.
- (vi) The thesis shall be finally examined by a panel of examiners in line with Postgraduate School regulations (all other conditions as stipulated by the Postgraduate School).
- (vii) The Doctor of Philosophy (Ph. D.) degree to be awarded by the Postgraduate School shall be classified as **Ph. D. Computer Engineering**.

## LIST OF TEACHING STAFF

S/N	Name of Staff	Status and Qualifications	Core Area of Research	Areas of Specialization
1	Prof E. O. Omidiora	Professor; B.Sc, M.Sc., Ph.D, MCPN, MNSE, R.Engr.	Computer Engineering	Soft Computing, Pattern Recognition and Biometrics
2	Dr. O. T. Arulogun	Reader; B. Tech, M.Sc., Ph.D, MCPN, R.Engr.	Computer Engineering	Control Systems, Soft Computing, E-Nose Technology and Artificial Intelligence
3	Dr. (Mrs.) A. O. Oke	Senior Lecturer; B.Tech, M.Tech, Ph.D, MCPN, R.Engr	Computer Engineering	Image Analysis, Pattern Recognition and Hardware design
4	Dr. J. B. Oladosu	Senior Lecturer; B.Tech, M.Sc, Ph.D, MCPN, R.Engr	Computer Engineering	e-Health and Telemedicine, Hardware designs
5	Dr. A. S. Falohun	Senior Lecturer; B.Tech, M.Tech, Ph.D, MCPN, R.Engr.	Computer Engineering	Biometrics and Pattern recognition, Hardware designs
6	Dr. R. A. Ganiyu	Senior Lecturer; B.Tech, M.Tech, Ph.D, MCPN, R.Engr.	Computer Engineering	Optimization Techniques, Hardware designs, Modelling and Simulation
7	Dr. O. O. Okediran	Senior Lecturer; B.Tech, M.Tech, Ph.D, MCPN, R.Engr.	Computer Engineering	Information Systems and Hardware designs
8	Prof. J. O. Emuoyibofahre	Professor; B.Tech, M.Tech, Ph.D, MCPN	Computer Science	Computational Mathematics, Optimization, E-health, Grid computing and Artificial Intelligence and Soft Computing
9	Prof. S. O. Olabiyisi	Professor; B.Tech, M.Tech, M.Sc., Ph.D, MCPN	Computer Science	Computational Mathematics, Complexity Theory, Simulation and Performance Modeling
10	Dr. (Mrs.) A. B. Adetunji	Reader; B.Sc., M.Sc., Ph.D, MCPN	Computer Science	Data Mining and Machine Learning
11	Prof. O. A. Afolabi	Reader; PGD, M.Tech, Ph.D, MCPN	Computer Science	Bio- Cryptographic, e-Learning and Software Engineering