

Ocean of Discoveries,
for Global Sustainability



FTKKI Technology to Lead

**POSTGRADUATE
PROGRAMMES**

**FACULTY OF OCEAN
ENGINEERING
TECHNOLOGY AND
INFORMATICS**
UNIVERSITI MALAYSIA TERENGGANU



<https://www.ftkki.umt.edu.my>

4

Postgraduate Programmes

1. MASTER OF COMPUTER SCIENCE
2. MASTER OF INFORMATION TECHNOLOGY
3. MASTER OF MATHEMATICS
4. MASTER OF STATISTICS IN MARINE SCIENCE

MASTER BY COURSEWORK

Graduate Programmes by coursework are offered to the local and international students that fulfil admission requirements as specified by respective programme. Students enrolled in this programme are required to fulfil forty (40) / forty-four (44) credits comprising coursework, Postgraduate Colloquium Project and a dissertation. The dissertation is submitted at the end of the programme. In some programmes, a comprehensive examination is required. To date, FTKKI has four (4) master by coursework programmes which are Master of Computer Science, Master of Information Technology, Master of Mathematics and Master of Statistics in Marine Science.

INTRODUCTION

FACULTY OF OCEAN ENGINEERING TECHNOLOGY AND INFORMATICS (FTKKI) ENCOMPASSES VARIOUS DISCIPLINES; SCIENCE, TECHNOLOGY, ENGINEERING, COMPUTER, MATHEMATICS, ENVIRONMENTAL, AND MARITIME, ALL DEDICATED TO PRODUCE GRADUATES WHO ARE COMPETITIVE GLOBALLY.

PROGRAMME INFORMATION

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<https://postgrad.umt.edu.my>

APPLY ONLINE AT

<https://gsea.umt.edu.my>

LIST OF FIELDS, SUBFIELDS AND SPECIALIZATIONS

FIELD	SUB FIELD	SPECIALIZATION
Engineering and Engineering Trades (NEC Code:: 520)	Chemical Engineering and Technology	Chemical Processes Membrane Technology Petrochemical Technology Biological Engineering Nanomaterial and Nanotechnology Separation Technology
	Maritime Engineering and Technology	Corrosion Technology Material Engineering Naval Architecture Reliability Engineering Offshore Engineering Coastal Engineering Subsea Engineering Marine Engineering Acoustical Engineering Ship Structure Engineering Combustion Thermo fluids
Engineering and Engineering Trades (NEC Code:: 520)	Electricity and Energy	Computational Modelling and Simulation Renewable Energy
	Electronics	Automation and Control Instrumentation Communications and Network
Physical Science (NEC Code:: 440)	Physics	Electronics and Instrumentation Material Physics Solid State Physics Energy
	Remote Sensing	Communications and Signal Processing
Computer Science (NEC Code:: 481)	Computer Science	Artificial Intelligence Computer Systems Databases High Performance Systems Image Processing Information Retrieval Information Systems Multimedia Software Engineering Information Technology Algorithm and Data Communication and Security Concurrent, Parallel and Distributed Computing Computer Graphic
		Mathematical Sciences
Mathematics (NEC Code:: 461)		

01 Master of Computer Science

PROGRAMMES STRUCTURE

CREDIT HOURS:
40 credits
(22 core courses + 8 elective courses + 10 master project)

Course Title	Course Classification	Credit
Research Methodology	Core	3(3+0)
Graduate Colloquium Project	Core	3(0+3)
Software Project Management	Core	4(4+0)
Algorithm Analysis	Core	4(4+0)
Internet Technology	Core	4(4+0)
Machine Learning	Core	4(4+0)
Software Testing Methodology	Elective	4(4+0)
Software Quality Management	Elective	4(4+0)
Decision Support System	Elective	4(4+0)
Advanced Digital Image Processing	Elective	4(4+0)
Master Project	Project	10(0+10)

PROGRAM EDUCATION OBJECTIVES

- Knowledgeable in Computer Science and able to use technical, scientific and critical thinking skills for any computing solution in various disciplines;
- Knowledgeable in Computer Science and able to use technical, scientific and critical thinking skills for any computing solution in various disciplines;
- Able to explore entrepreneurial or business opportunities involving computing technology, work professionally, ethically and keep abreast of the development of computer science and technology by practicing lifelong learning;
- Mastering digital and numeracy skills and willingly take on the leader role with the advanced knowledge of Computer Science in various disciplines

DURATION

- Full-time - minimum 2+1 semesters (12 months)
- Part-time - minimum 4+2 semesters (24 months)

FLEXIBLE CLASS SESSION

- Weekdays after working hours / weekend

FEES STRUCTURE

- Local students - RM10,240.00
- International students - RM16,660.00

CONTACT : FTKKI Postgraduate Secretariat:
Mohd Rahime Fauze Abdul Rahman
Email : mrahime@umt.edu.my
Tel : +609-6683374

ADMISSION REQUIREMENT

Academic criteria as follows:

- Bachelor's Degree in Computer Science (Software Engineering) or Bachelor's Degree in Computer Science (Informatics Maritime) with a minimum CGPA of 2.75 from UMT;
- OR
- Bachelor's degree with Honours in related field with a good grade, OR CGPA of 2.75/4.00 and above; from higher institution recognized by the Senate;
- OR
- Candidate that obtained minimum CGPA 2.50 also qualify if they possesses minimum five (5) years' work experiences in the related field;
- OR
- Any other academic qualifications equivalent to Bachelor Degree and possesses related professional experiences recognized by the Senate;
- OR

- Passed the APEL assessment conducted by MQA in Computer Science to be eligible for admission to Masters level programs (Level 7, Malaysian Qualifications Framework)
- * Candidate must furnish the APEL Certificate from MQA before the admission process

- OR
- International candidate that possesses qualifications equivalent to Bachelor's Degree in Computer Science recognized by the Senate.

English Requirement for international candidates:

- TOEFL with minimum score 550;
- OR
- IELTS with minimum band 6.0.
- International students that obtained academic qualification from Malaysia public higher institution that recognized by Senate are excluded from English qualification.

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Ts. Dr. Zuriana Abu Bakar
Chairman of Computer Science
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Tel : +609-668 3988 / 3367

02 Master of Information Technology

PROGRAMMES STRUCTURE

CREDIT HOURS:
40 credits
(22 core courses + 8 elective courses + 10 master project)

Course Title	Course Classification	Credit
Research Methodology	Core	3(3+0)
Graduate Colloquium Project	Core	3(0+3)
Open-source Programming	Core	4(4+0)
Software Development & Management Technology	Core	4(4+0)
Data Analytics	Core	4(4+0)
Strategic Approach of Managing Information Systems	Core	4(4+0)
Decision Support System	Elective	4(4+0)
Digital Marketing	Elective	4(4+0)
Software Testing Methodology	Elective	4(4+0)
Master Project	Project	10(0+10)

PROGRAM EDUCATION OBJECTIVES

- Able to use scientific and critical thinking skills to meet the needs of university thrusts and industry;
- Able to communicate and aware of social responsibility to keep abreast of current information technology development;
- Able to apply information technology skills with professionalism and ethical values to improve quality and productivity in the workplace; and
- Able to explore entrepreneurial business opportunities as well as have high leadership qualities and be able to adapt current technology for lifelong learning.

DURATION

- Full-time - minimum 2+1 semesters (12 months)
- Part-time - minimum 4+2 semesters (24 months)

FLEXIBLE CLASS SESSION

- Weekdays after working hours / weekend

FEES STRUCTURE

- Local students - RM10,240.00
- International students - RM16,660.00

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Mohd Rahime Fauze Abdul Rahman
Email : mrahime@umt.edu.my
Tel : +609-6683374

ADMISSION REQUIREMENT

Academic criteria as follows:

- Bachelor's Degree in various fields from UMT with minimum CGPA of 2.75; or equivalent qualifications from UMT or other higher institutions that recognized by the UMT's Senate;

OR

- Bachelor's Degree in related fields with minimum CGPA of 2.50 or equivalent qualifications, and possesses five (5) years' work experiences that recognized by the UMT's Senate;

OR

- Any other academic qualifications equivalent to Bachelor Degree and possesses related professional experiences recognized by the Senate;

OR

- Passed the APEL assessment conducted by MQA in Information Technology to be eligible for admission to Masters level programs (Level 7, Malaysian Qualifications Framework)

- * Candidate must furnish the APEL Certificate from MQA before the admission process

OR

- International candidate that possesses qualifications equivalent to Bachelor's Degree or related professional experience recognized that recognized by the Senate.
- Candidates who do not have a Computer Degree, must follow the pre-requisite modules in computing.

English Requirement for international candidates:

- TOEFL with minimum score 550;

OR

- IELTS with minimum band 6.0.
- International students that obtained academic qualification from Malaysia public higher institution that recognized by Senate are excluded from English qualification.

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03 Master of Statistics in Marine Science

PROGRAMMES STRUCTURE

CREDIT HOURS:
44 credits
(22 core courses + 12
elective courses + 10
master project)

Course Title	Course Classification	Credit
Research Methodology	Core	3(3+0)
Postgraduate Colloquium Project	Core	3(0+3)
Oceanography Data Analysis	Core	4(4+0)
Time Series Analysis in Marine	Core	4(4+0)
Predictive Analysis	Core	4(4+0)
Exploratory Marine Data Analysis	Core	4(4+0)
* Machine Learning	Elective	4(4+0)
* Data Analysis using R	Elective	4(4+0)
* Stochastic Modelling in Physical Oceanography	Elective	4(4+0)
* Convex and Nonlinear Optimization in Maritime Problem	Elective	4(4+0)
Master Project	Project	10(0+10)

*Note: For electives courses, choose any three (3) electives courses.

PROGRAM EDUCATION OBJECTIVES

- Knowledgeable and have a deep understanding of statistics in marine science and eager to explore new and challenging field of knowledge.
- Proficient in using computer technology to solve statistical problems in marine science critically and innovatively.
- Able to lead with trust and full ethical and able to work with team members professionally.
- Ability to organize ideas, information, and data on a regular basis and be able to deliver it effectively through the effective use of technology.
- Ability to identify opportunities and the ability to develop a business plan based on knowledge in the field of statistics in marine science.

DURATION

- Full-time - minimum 2+1 semesters (12 months)
- Part-time - minimum 4+2 semesters (24 months)

FLEXIBLE CLASS SESSION

- Weekdays after working hours / weekend

FEES STRUCTURE

- Local student: RM11,140.00
- International student: RM17,810.00

CONTACT : FTKKI Postgraduate Secretariat:
Mohd Rahime Fauze Abdul Rahman
Email : mrahime@umt.edu.my
Tel : +609-668 3374

ADMISSION REQUIREMENT

Academic criteria as follows:

- Bachelor's Degree (Level 6 of the Malaysian Qualifications Framework, MQF) of Science (Applied Mathematics) or Bachelor of Science (Financial Mathematics) with a minimum Cumulative Grade Point Average (CGPA) of 2.75 from Universiti Malaysia Terengganu (UMT);

OR

- Bachelor's Degree (Level 6 of the Malaysian Qualifications Framework, MQF) of Science with Honors and equivalent with a minimum CGPA of 2.75 from higher learning institution recognized by the Senate;

OR

- Candidates with a Bachelor's Degree (Level 6 of the Malaysian Qualifications Framework, MQF) of Science with a minimum 2.50 CGPA are also eligible if they have at least five (5) years of work experience in a related field;

OR

- Passed the APEL assessment conducted by MQA in related fields to be eligible for admission to master's

level programs (Level 7, Malaysian Qualifications Framework, MQF)
* Candidate must furnish the APEL Certificate from MQA before the admission process

OR

• International candidates who have qualifications equivalent to a Bachelor of Science degree and are recognized by the Senate.

English Language Proficiency Requirements:

- International applicants must have the following language qualifications:
 - Test of English as a Foreign Language (TOEFL) with a minimum score of 550;
- OR
- International English Language Testing System (IELTS) with a minimum band score of 6.0.
- International students who possess academic qualifications from any public university recognized by the UMT's Senate may be exempted from the language qualification requirements.

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04 Master of Mathematics

PROGRAMMES STRUCTURE

CREDIT HOURS:
44 credits
(22 core courses + 12
elective courses + 10
master project)

Course Title	Course Classification	Credit
Research Methodology	Core	3(3+0)
Postgraduate Colloquium Project	Core	3(0+3)
Nonlinear Differential Equations	Core	4(4+0)
Numerical Solutions in Mathematical Modelling	Core	4(4+0)
Selected Issues in Mathematical Modelling	Core	4(4+0)
Machine Learning	Core	4(4+0)
* Mathematics for Physical Oceanography	Elective	4(4+0)
* Computational Wave Dynamics	Elective	4(4+0)
* Stochastic Modelling in Physical Oceanography	Elective	4(4+0)
* Dynamical System for Physical Oceanography	Elective	4(4+0)
* Deterministic Mathematical Model in Maritime Management	Elective	4(4+0)
* Convex and Nonlinear Optimization in Maritime Problem	Elective	4(4+0)
* Fuzzy Decision in Maritime	Elective	4(4+0)
* Metaheuristics for Maritime Decision Making	Elective	4(4+0)
Master Project	Project	10(0+10)

*Note: For electives courses, choose any three (3) electives courses.

PROGRAM EDUCATION OBJECTIVES

- Knowledgeable and have a deep understanding in mathematics and eager to explore new and challenging field of knowledge.
- Proficient in using computer technology to solve problems critically and innovatively.
- Able to lead with trust and full ethical and able to work with team members professionally.
- Ability to organize ideas, information, and data on a regular basis and be able to deliver it effectively through the effective use of technology.
- Ability to identify opportunities and the ability to develop a business plan based on knowledge in the field of mathematics.

DURATION

- Full-time - minimum 2+1 semesters (12 months)
- Part-time - minimum 4+2 semesters (24 months)

FLEXIBLE CLASS SESSION

- Weekdays after working hours / weekend

FEES STRUCTURE

- Local student: RM11,140.00
- International student: RM17,810.00

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ADMISSION REQUIREMENT

Academic criteria as follows:

- Bachelor's Degree (Level 6 of the Malaysian Qualifications Framework, MQF) of Science (Applied Mathematics) or Bachelor of Science (Financial Mathematics) with a minimum Cumulative Grade Point Average (CGPA) of 2.75 from Universiti Malaysia Terengganu (UMT);

OR

- Bachelor's Degree (Level 6 of the Malaysian Qualifications Framework, MQF) of Science with Honors and equivalent with a minimum CGPA of 2.75 from higher learning institution recognized by the Senate;

OR

- Candidates with a Bachelor's Degree (Level 6 of the Malaysian Qualifications Framework, MQF) of Science with a minimum 2.50 CGPA are also eligible if they have at least five (5) years of work experience in a related field;

OR

- Passed the APEL assessment conducted by MQA in related fields to be eligible for admission to master's level programs (Level 7, Malaysia

Qualifications Framework, MQF)
* Candidate must furnish the APEL Certificate from MQA before the admission process

OR

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**FAKULTI TEKNOLOGI
KEJURUTERAAN KELAUTAN
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