Graduate Studies
Prospectus 2012
GRADUATE STUDIES
PROSPECTUS
2012
MALAYSIA ON YOUR DOORSTEP

Geographically, Malaysia is as diverse as its culture. Malaysia is divided into 13 states and 3 Federal Territories, separated by the South China Sea with 11 states and 2 federal territories (Kuala Lumpur and Putrajaya) in Peninsular Malaysia and two states and 1 federal territory (Labuan) in East Malaysia.

One of Malaysia’s key attractions is its extreme contrasts. Towering skyscrapers look down upon wooden houses built on stilts, and five-star hotels sit several metres away from ancient reefs. Cool hideaways are found in the highlands that roll down to warm, sandy beaches and rich, humid mangroves.

Pahang, which covers an area of 35,960 sq. km, is the largest state in Peninsular Malaysia. Pahang has so much to offer the visitor that tourists, both locals and foreign, come back again and again. Pahang has cool green mountains, rain forests, hill resorts, tranquil fishing villages, long stretches of sandy beaches, mysterious caves and unspoilt lakes.

With a population of 1 million, the state, which lies on the East Coast, offers the finest in beaches such as the famous Cherating Beach, Teluk Chempedak and Beserah Beach. There are the renown hill resorts of Cameron Highlands, Genting Highlands and Fraser’s Hill. If you are looking for adventure, why not visit parks such as Kenong Rimba, Endau-Rompin and Taman Negara (National Park).
WELCOME TO KUANTAN

Kauntan, the capital of the State of Pahang is the gateway to an adventurous, thrilling and exhilarating tropical holiday. The town located on the east coast of the state facing the blue South China Sea is fast developing into a modern commercial center while still retaining its unique age-old charm and heritage. Modern high-rise structures cohabit harmoniously with pre-war shop houses and colonial buildings.

The State Mosque, with its distinctive dome and minarets in a pastel shade of sky blue and mint green stands regal in the middle of the town as a prominent landmark to newcomers to the town.

Places of interests are aplenty in and on the outskirts of Kuantan. A visit to Kuantan is not complete without visiting some of these places, which never fail to arouse the curiosity of the visitors.

The Kuantan river cruise takes visitors through the picturesque landscape of a 500-year mangrove forest reserve that spreads along the Kuantan River. The swamp which covers an area of 340 hectares, is home to a fascinating varieties of estuarine plants, birds and fish species.
FOREWARD FROM THE VICE-CHANCELLOR

Established in 2002 as the Malaysia 16th Public University, UMP currently offers graduate studies by research at Master’s and Doctoral levels. Candidates for studies at the doctoral level would be admitted into the PhD program. These programs are offered through the respective academic faculties in UMP.

The general areas of specialisation are as follows: Chemical Engineering Bioprocess, Biotechnology, Industrial Chemistry, Mechanical Engineering, Automotive Engineering, Production Engineering, Electrical Engineering, Electronic Engineering, Instrumentation, Civil Engineering, Construction Engineering, Computer Science, Software Engineering, Technology Management, Industrial Safety and Health, Human Capital Resources, Project Management and Operations Management. Potential candidates are strongly encouraged to enquire with the respective faculties on the availability of supervisor to supervise research work in specific sub-specialisation of the areas listed above.

Tailoring our graduates with the needs of present job market, our curriculae are designed to meet the requirements of the Ministry of Higher Education, the Malaysian Qualifications Agency and the Engineering Accreditation Council. The curriculae focus on enhancing the capabilities of our students to become highly competent professionals and future global players.

Operating from its Gambang and Pekan Campuses, UMP adopts a student-centred learning approach by utilising our web-based e-learning applications, library-on-server and others to the maximum, creating a fun and enjoyable learning environment for our students.

Our engineering and science laboratories are equipped with state-of-art facilities and equipment resembling those available in the industries, enabling our students to experience an actual working environment.

All the best!

Professor Dato' Dr. Daing Nasir Ibrahim
Vice-Chancellor
Universiti Malaysia Pahang
VISION & MISSION

VISION

To be a world-class Technological University.

MISSION

We provide high quality education, research and services in engineering and technology in a culture of creativity and innovation.

OBJECTIVES

1. To produce outstanding graduates by providing competitive engineering and technological programmes.
2. To spearhead cutting edge industry-relevant research initiatives.
3. To be a leading service provider to industries and community based on our niche and areas of expertise.
4. To be recognized as an institution for excellent management and work culture.

PHILOSOPHY

Knowledge, a trust bestowed by Allah to man vicegerent on earth, is to be fully utilized. Emphasis is an applied knowledge guided by Islamic values to develop human capital towards universal harmony and prosperity.

CORE VALUES

1. Strong bond with the creator
2. Steadfast in upholding shared principles.
3. Creative in making wise decisions.
4. Resolute in facing challenges.
RESEARCH AND DEVELOPMENT

UMP’s research are centred around specific Niche Areas which are
- Chemical Engineering and Industrial Biotechnology
- Automotive Engineering and Manufacturing

The university focuses on applied research and industrial projects to boost the teaching and learning process with four focus groups and six expert groups:

**Focus Group**
- Chemical Engineering
- Biotechnology
- Automotive
- Manufacturing

**Expert Groups**
- Process Instrumentation and Control
- Innovative Construction
- Information Technology
- Human Sciences
- Environmental
- Advanced Material

INTERNATIONAL RECOGNITION AND ACHIEVEMENTS

The University has established links with reputable institutions of higher learning in Germany, United States, Indonesia and more on academic collaboration, student as well as staff exchange, and research.

Exhibition of research products by renowned researchers of the University is among the university's main agenda. UMP has received various awards from the International Invention, Innovation, Industrial Design and Technology Exhibition (ITEX), the International Exhibition Ideas- Inventions New Products (IENA 07) in Germany, the Malaysian Invention and Design Society (MINDS) and many more.
WELCOME TO UMP

Universiti Malaysia Pahang (UMP) offers a wide range of practical-based higher education programmes in engineering and technology to produce competent engineers. The application-oriented curriculum which integrates theory and practice in the concept of a teaching factory emphasises experiential and action learning that is task-oriented and concentrates on problem-solving.

UMP focuses on applied research and industrial projects to enrich the teaching and learning processes while promoting the commercialisation of the research products, thus exposing our students to the latest research and development activities in the industries.

Our campus is fully-equipped with the latest ICT systems, including a wireless broadband internet connection to facilitate the university’s electronic-based e-Learning and e-Management activities. UMP is committed to the development of human capital and technology to fulfill the needs of industries and contribute to national development.

UMP CAMPUS AT GAMBANG, KUANTAN, PAHANG

UMP currently operates at its Gambang campus in the industrial estate in MEC City, Gambang, about 30 km west of the capital city of Kuantan. The University is only 2½ hours away from Kuala Lumpur via the East Coast Expressway. Strategically located in the East Coast Industrial Belt of Peninsular Malaysia which hosts a number of multinational corporations in the chemical, petro-chemical, manufacturing, automotive and biotechnology industries, our students have extensive exposure to the latest development in the fields of engineering and technology.
WELCOME TO UMP

Universiti Malaysia Pahang (UMP) offers a wide range of practical-based higher education programmes in engineering and technology to produce competent engineers. The application-oriented curriculum which integrates theory and practice in the concept of a teaching factory emphasises experiential and action learning that is task-oriented and concentrates on problem-solving.

UMP focuses on applied research and industrial projects to enrich the teaching and learning processes while promoting the commercialisation of the research products, thus exposing our students to the latest research and development activities in the industries.

Our campus is fully-equipped with the latest ICT systems, including a wireless broadband internet connection to facilitate the university’s electronic-based e-Learning and e-Management activities.

UMP is committed to the development of human capital and technology to fulfil the needs of industries and contribute to national development.

UMP CAMPUS AT GAMBANG, KUANTAN, PAHANG

UMP currently operates at its Gambang campus in the industrial estate in MEC City, Gambang, about 30 km west of the capital city of Kuantan. The University is only 2½ hours away from Kuala Lumpur via the East Coast Expressway. Strategically located in the East Coast Industrial Belt of Peninsular Malaysia which hosts a number of multinational corporations in the chemical, petro-chemical, manufacturing, automotive and biotechnology industries, our students have extensive exposure to the latest development in the fields of engineering and technology.

UMP CAMPUS AT PEKAN

UMP’s main campus of 745.6 hectares is under construction in the district of Pekan. The first phase of the campus project started its operations in 2010 with the Faculty of Mechanical Engineering and the Faculty of Electrical and Electronic Engineering. The second phase will see the Faculty of Manufacturing Engineering and Faculty of Technology Management in 2012 and 2014 respectively. There will be two other phases after that. Upon completion, it can accommodate a total of 15,000 students and 2,000 staff.

A 24-hour internet connection serves students through the wired and wireless networks throughout the campus, making it a conducive teaching and learning environment.

ACADEMIC FACILITIES AND RESOURCES

UMP’s laboratories have the latest equipment resembling those in industries.
LIBRARY

UMP has two libraries, one at each campus. The library of UMP plays an important role in its service for resource in teaching and learning, research and consultancy. It is also a catalyst in promoting culture of knowledge sharing at UMP and the community enriching various knowledge repository. The Library in Pekan campus started its service since March 2010. UMP's libraries have a vast collection of books and multimedia for circulation and reference. UMP subscribes to various repository databases such as .... Physical facilities include discussion rooms, seminar rooms, multimedia room, computer laboratories and audio visual rooms. The e-Resource of UMP’s Library provides comprehensive access to full-text e-journals available at the Library. The portal allows you to search for online databases, e-journals, e-Books by title or browse title by subject. The e-Resource provides both on-campus and off-campus access to the Library’s electronic Resource.
CENTRE FOR GRADUATE STUDIES

The Centre for Graduate Studies (CGS) supervises and promotes the graduate programmes of UMP. This includes administering the admission, appointment of supervisors, candidature reviews, provision of financial assistance and assessment. The centre is headed by a dean who is assisted by administrative officers and administrative assistants.

GRADUATE PROGRAMMES

UMP currently offers two modes of study at the graduate level. The graduate studies by coursework at the Masters level and graduate studies by research are at Masters and Doctoral levels. These programmes are offered through the respective academic faculties of UMP. The general areas of specialisation are as follows:


Potential candidates for the research mode programmes are strongly encouraged to enquire with the respective faculties on the availability of a supervisor to supervise research work in specific sub-specialisation areas listed above.
**DURATION OF STUDY**

An applicant may choose to enroll as a full-time or part-time student subject to the study programme offered by the faculty. However, international candidates may only register as full-time students.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Full Time</th>
<th>Part Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum no. of semesters</td>
<td>Maximum no. of semesters</td>
</tr>
<tr>
<td>PhD &amp; D'Eng</td>
<td>4 (2 years)</td>
<td>10 (5 years)</td>
</tr>
<tr>
<td>Masters (research)</td>
<td>2 (1 year)</td>
<td>6 (3 years)</td>
</tr>
<tr>
<td>Masters (coursework)</td>
<td>3 (1 ½ years)</td>
<td>7 (3 ½ yrs)</td>
</tr>
</tbody>
</table>

**COURSE FEES**

There are four parts of the course fees:

- Registration Fees (one off)
- Administration Fees (every semester)
- Tuition Fees (every semester)
- Examination Fees
### DURATION OF STUDY

An applicant may choose to enroll as a full-time or part-time student subject to the study programme offered by the faculty. However, international candidates may only register as full-time students.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Full Time</th>
<th>Minimum no. of semesters</th>
<th>Maximum no. of semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD &amp; D’Eng</td>
<td>4 (2 years)</td>
<td>10 (5 years)</td>
<td></td>
</tr>
<tr>
<td>Master's (research)</td>
<td>2 (1 year)</td>
<td>6 (3 years)</td>
<td></td>
</tr>
<tr>
<td>Masters (coursework)</td>
<td>3 (1½ years)</td>
<td>7 (3½ yrs)</td>
<td></td>
</tr>
</tbody>
</table>

### COURSE FEES

There are four parts of the course fees:

- **Registration Fees** (one off)
- **Administration Fees** (every semester)
- **Tuition Fees** (every semester)
- **Examination Fees**

#### Registration Fees, Examination Fees and Administrative Fees in RM

<table>
<thead>
<tr>
<th></th>
<th>Malaysian</th>
<th></th>
<th>International</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Semester</td>
<td>Subs’t Semesters</td>
<td>1st Semester</td>
<td>Subs’t Semesters</td>
</tr>
<tr>
<td>Registration: All students</td>
<td>250</td>
<td>0</td>
<td>250</td>
<td>0</td>
</tr>
<tr>
<td>Examination Fees (PhD by Research)</td>
<td>500</td>
<td></td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Examination Fees (Masters by Research)</td>
<td>300</td>
<td></td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Examination Fees (Master Course Work)</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Administrative Fees</td>
<td>375</td>
<td>375</td>
<td>375</td>
<td>375</td>
</tr>
<tr>
<td>Welfare</td>
<td>20</td>
<td>20</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Insurance</td>
<td>30</td>
<td>30</td>
<td>300 per yr</td>
<td></td>
</tr>
</tbody>
</table>

#### Tuition Fees to be paid every semester in RM

<table>
<thead>
<tr>
<th></th>
<th>Malaysian</th>
<th></th>
<th>International</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Time</td>
<td>Part Time</td>
<td>Full Time</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1st</td>
<td>Subs’t</td>
<td></td>
</tr>
<tr>
<td>Masters by coursework (min 6 credits or max 18 credits per semester)</td>
<td>285 per credit</td>
<td>NA</td>
<td>NA</td>
<td>400 per credit</td>
</tr>
<tr>
<td>Master of Engineering (Research)</td>
<td>1200</td>
<td>1200</td>
<td>600</td>
<td>3100</td>
</tr>
<tr>
<td>Masters (Science &amp; Technology Management) (Research)</td>
<td>1200</td>
<td>1200</td>
<td>600</td>
<td>2100</td>
</tr>
<tr>
<td>PhD (Engineering)</td>
<td>1500</td>
<td>1500</td>
<td>750</td>
<td>3400</td>
</tr>
<tr>
<td>PhD (Science &amp; Technology Management)</td>
<td>1500</td>
<td>1500</td>
<td>750</td>
<td>2400</td>
</tr>
</tbody>
</table>
COST OF GRADUATE STUDIES

The estimated total cost of studying at UMP (inclusive of tuition and living expenditure) for an 18 month master’s degree candidature is RM35,000. The estimated total cost for a 36 month doctoral candidature is about RM70,000. The bulk of this cost is living cost since the tuition fees charged for both Malaysian and international students are low. As such, the actual total cost depends on the candidates’ lifestyle and preferences.

International students are required to take life insurance of RM300 per year. International students are also advised to take up medical insurance for self and family due to the high cost of medical services in Malaysia.
COST OF GRADUATE STUDIES

The estimated total cost of studying at UMP (inclusive of tuition and living expenditure) for an 18 month master's degree candidature is RM35,000. The estimated total cost for a 36 month doctoral candidature is about RM70,000. The bulk of this cost is living cost since the tuition fees charged for both Malaysian and international students are low. As such, the actual total cost depends on the candidates’ lifestyle and preferences.

International students are required to take life insurance of RM300 per year. International students are also advised to take up medical insurance for self and family due to the high cost of medical services in Malaysia.

ADMISSION

Application for a research-based degree is open throughout the year. Interested applicants should first visit the website of the respective faculties to identify a potential supervisor. CGS encourages applicants to communicate with their potential supervisor in the course of preparing the research proposal that is required for application for admission.

Applicants may apply through UMP’s website http://pps.ump.edu.my. Applicants are encouraged to follow-up with CGS on the status of their application one month after submitting their application. The duration of an application process will take about one to two months.

ADMISSION REQUIREMENTS

Doctoral Programme

A masters degree in the relevant area from recognised institutions or equivalent professional qualifications that are recognised by the University.

Masters Programme

A bachelor’s degree with honours (minimum CGPA 2.75)* in the relevant area from recognised institutions or equivalent professional qualifications that are recognised by the University.

* subject to faculty requirement

ENGLISH LANGUAGE REQUIREMENTS

Candidates should have a good command of English equivalent to IELTS Band 6.5 or TOEFL score of 550, or MUET Band 4.
FINANCIAL ASSISTANCE

UMP does provide a limited number of financial assistance for deserving candidates. These assistances may cover living cost only or cover both living expenses and tuition fees.

Candidates requiring financial assistance to study in UMP must apply for assistance before commencing their study in UMP. Such candidates should only commence their candidature when their application is successful. Applicants who are not dependent on financial assistance from UMP may commence their study at anytime. Applicants must be fully responsible for the financial application of their decision to commence their study.

The financial assistance by UMP are in two forms, being:

1. Graduate Research Scheme (GRS), and
2. Doctoral Scholarship Scheme (DSS)
3. UMP Fellowship Scheme

GRS provides RM1500 per month meant to cover student living cost. For prudent student, this amount could also be enough to help pay for tuition. DSS provide assistance to cover both living and tuition cost. However DSS is meant only for student registered in doctoral program. The amount provided for living cost is RM1800 per month.

Further information for UMP Fellowship Scheme and application forms can be accessed through website http://pendaftar.ump.edu.my. Approval for this scheme will be considered through an interview process.

Malaysian candidates working for supervisors whose research are funded by grants from Ministry of Science, Technology and Innovation could apply for financing from the ministry. Two funding schemes are available for such candidates being:

1. National Science Fellowship (NSF)

This scheme is a pre-service scholarship for excellent Program in Science, Technology & Innovation (STI) graduates for Master and Doctorate full time studies based on research in local and overseas Institution of Higher Education. The scholarship covers tuition fees, examination fees and
FINANCIAL ASSISTANCE

UMP does provide a limited number of financial assistance for deserving candidates. These assistances may cover living cost only or cover both living expenses and tuition fees. Candidates requiring financial assistance to study in UMP must apply for assistance before commencing their study in UMP. Such candidates should only commence their candidature when their application is successful. Applicants who are not dependent on financial assistance from UMP may commence their study at anytime. Applicants must be fully responsible for the financial application of their decision to commence their study.

The financial assistance by UMP are in two forms, being:

1. Graduate Research Scheme (GRS),
2. Doctoral Scholarship Scheme (DSS)
3. UMP Fellowship Scheme

GRS provides RM1500 per month meant to cover student living cost. For prudent student, this amount could also be enough to help pay for tuition. DSS provides assistance to cover both living and tuition cost. However, DSS is meant only for student registered in doctoral program. The amount provided for living cost is RM1800 per month.

Further information for UMP Fellowship Scheme and application forms can be accessed through website http://pendaftar.ump.edu.my. Approval for this scheme will be considered through an interview process.

Malaysian candidates working for supervisors whose research are funded by grants from Ministry of Science, Technology and Innovation could apply for financing from the ministry. Two funding schemes are available for such candidates being:

1. National Science Fellowship (NSF)
   This scheme is a pre-service scholarship for excellent Program in Science, Technology & Innovation (STI) graduates for Master and Doctorate full time studies based on research in local and overseas Institutions of Higher Education. The scholarship covers tuition fees, examination fees and RM1,560 monthly allowance for Masters candidates and RM2,300 for Doctorate candidates. The rates for overseas study will be in accordance Public Service Department scholarship rates.
   2. Universiti Post Graduate Research Scholar Scheme (PGD)

   This scheme is a pre-service scholarship for potential post graduate students in Science, Technology and Innovation to further their studies in Master and Doctorate level for full time research. Open to post graduate students who have supervisors with research grant from MOSTI. Selected students can do the research and further their studies in local public or private Institutions of Higher Education.

Further information about the two schemes can be obtained from http://ehcd.mosti.gov.my.

International Candidates may apply for Scholarship for Graduate Studies made available under Malaysian Technical Cooperation Program. A total of 100 award are made available under this scheme. Interested candidates may find further information on this scheme from http://www.mohe.gov.my or by email to norkamilahz@mohe.gov.my for any enquiries. Candidates who are funded through this scheme are entitled for further support from UMP in the form of travel grant to present research finding and research fund to pay for research activities.

**MyBrain 15 (MyPhD & MyMaster)**

MyMaster & MyPhD programmes were created under the 10th Malaysia Plan via the MyBrain15 program for the sponsorship of postgraduate study at the Masters & PhD levels.

Further details please click to these links:

MyBrain15: https://www.mohe.gov.my/MyBrain15
STUDENT SUPPORT SERVICES

UMP at MEC City Gambang has been specially refurbished to provide an excellent study and learning environment. The University provides a wide variety of campus facilities for its academic staff and students. UMP has set up facilities to ensure that students enjoy the convenience of travel and accommodation when undertaking a program at the university.

UMP is equipped with wireless internet accesses, which allow students and staff to access the internet from their laptops. Wireless internet access points have been installed at strategic locations on campus to facilitate internet access. UMP students, with notebooks, thus have the advantage of being able to access the internet anywhere, anytime on campus that is within range of the wireless internet access points. This flexibility allows them to access and download material from the web directly to their notebooks at their convenience.

The Department of Student Affairs and Alumni administers all matters relating to student welfare on campus. There are numerous student clubs and societies to meet the varied interests and recreational needs of the students.

INTERNATIONAL OFFICE

The International Office serves as a ‘one stop centre’ for all internationalisation activities of the University. IO is committed to provide high quality services to its internal and external clients. The IO will also strive to promote and enrich the academic and cultural experience at University Malaysia Pahang by facilitating the exchange of people and ideas.
STUDENT SUPPORT SERVICES

UMP at MEC City Gambang has been specially refurbished to provide an excellent study and learning environment. The University provides a wide variety of campus facilities for its academic staff and students. UMP has set up facilities to ensure that students enjoy the convenience of travel and accommodation when undertaking a program at the university.

UMP is equipped with wireless internet accesses, which allow students and staff to access the internet from their laptops. Wireless internet access points have been installed at strategic locations on campus to facilitate internet access. UMP students, with notebooks, thus have the advantage of being able to access the internet anywhere, anytime on campus that is within range of the wireless internet access points. This flexibility allows them to access and download material from the web directly to their notebooks at their convenience.

The Department of Student Affairs and Alumni administers all matters relating to student welfare on campus. There are numerous student clubs and societies to meet the varied interests and recreational needs of the students.

INTERNATIONAL OFFICE

The International Office serves as a ‘one stop centre’ for all internationalisation activities of the University. IO is committed to provide high quality services to its internal and external clients. The IO will also strive to promote and enrich the academic and cultural experience at University Malaysia Pahang by facilitating the exchange of people and ideas.

ACCOMMODATION

UMP provides ample accommodation for undergraduate and graduate students in five residential colleges. Available allocation is for 70% students only. Rooms type available are single, twin sharing and quad sharing. Bus service is provided to students who are living at nearby housing estates for commuting to the campuses. An inter-campus bus service is also provided every 15 minutes in the morning and another series in the evening.

There is no allocation for family houses or apartments. However, the Department of Student Affairs and Alumni (JHEPA) can assist in the search for local private houses for rent in the vicinity, within a 25km radius. Rentals for unfurnished 2-4 bedroom houses are usually set between RM500.00 – RM1,000.00 (USD140.00 – USD280.00) per month.

Transit houses are available for students with families (spouse and children) while they search for house to rent. The maximum period given for each student family to stay at a Transit house is six months only. Transit house is not part of the students’ residential facilities.
SPORTS FACILITIES
Gymnasium, badminton court, squash court, table tennis, tennis court, basketball, soccer field, volleyball, takraw court. The sports complex building has the biggest capacity in Pahang with twelve badminton courts. UMP also has a jogging track with exercise equipment.

HEALTH SERVICES
UMP has a medical centre that gives outpatient services to the students and staff of UMP. It is situated strategically in the centre of the campus with easy access for all students.

POSTGRADUATE STUDENTS CLUB
A club whose membership comprise of all graduate students has been formed. The main objective of the club is to help create an environment conducive for graduate studies. The club provides support to new students to a settle down in UMP and organize recreational and leisure activities for its members. CGS also provides allocation to help finance the club’s activities.
**LIST OF PROGRAMMES**

**PROGRAMMES BY RESEARCH**

**Doctor of Philosophy**
- Advanced Materials
- Automotive Engineering
- Bio-Process Engineering
- Biotechnology
- Chemical Engineering
- Chemistry
- Civil Engineering
- Computer Science
- Construction Engineering
- Electrical Engineering
- Electronic Engineering
- Environmental Technology
- Environmental Management
- Food Science
- Food Technology
- Gas Engineering
- Humanities Technology
- Industrial Chemistry
- Industrial Engineering
- Instrumentation Engineering
- Manufacturing Engineering
- Mathematics
- Mechanical Engineering
- Mechatronic Engineering
- Physics
- Software Engineering
- Statistics
- Technology Management

**Doctor of Engineering**
- Automotive
- Bio-Process
- Chemical
- Civil Engineering
- Construction
- Electrical
- Electronic
- Environmental Technology
- Gas
- Industrial
- Instrumentation
- Manufacturing
- Mechanical
- Mechatronic

**Master of Science**
- Advanced Materials
- Biotechnology
- Chemistry
- Computer Science
- Environmental Management
- Environmental Technology
- Food Science
- Food Technology
- Industrial Chemistry
- Mathematics
- Physics
- Software Engineering
- Statistics
Master of Engineering
- Automotive
- Bio-Process
- Chemical
- Civil Engineering
- Construction
- Electrical
- Electronic
- Gas
- Industrial
- Instrumentation
- Manufacturing
- Mechanical
- Mechatronic

Master of Technology Management
- Human Capital Resources
- Industrial Safety & Health
- Operation Management
- Project Management
- Techno-preneurship

Master of Humanities Technology
- English Language & Professional Communication
- Halal Management System
- Human Performance System
- Technology Enhanced Language Learning

MASTER BY COURSEWORK

Master of Engineering
- Chemical Engineering with Entrepreneurship

Master of Science
- Information & Communication Technology
- Computer Networking
- Software Engineering
UMP FACULTIES AND CENTRES

Pekan Campus
- Faculty of Electrical & Electronics Engineering
- Faculty of Manufacturing Engineering
- Faculty of Mechanical Engineering
- Automotive Engineering Centre

Gambang Campus
- Faculty of Industrial Sciences & Technology
- Faculty of Chemical & Natural Resources Engineering
- Faculty of Civil Engineering & Earth Resources
- Centre for Earth Resources Research & Management
- Faculty of Computer System & Software Engineering
- Faculty of Technology
- Centre for Modern Languages & Human Science
FACULTY OF ELECTRICAL & ELECTRONICS ENGINEERING

The electrical and electronics engineering offer thesis based both at the master’s and doctoral levels in Electrical, Electronics and Instrumentation Engineering. The research activities are focusing on applied based project to solve industrial problem. The faculty is organized into three main focus areas that usually capture the broad range of research activities within it. The main research areas are as follows:

Electrical Power
This group is focus in the areas of machine & drives, real-time monitoring systems, electric vehicles, Smart Grid, Alternative Energy, Power Electronics Applications, renewable energy, power quality and energy efficiency. This groups is led by Dr Abu Zaharin b. Ahmad.

Electronics
This group is directed to conduct research on the fields of electronic engineering focusing on Industrial Electronics. In addition, the expertise of the members is relevant to areas in microcomputer, Data communication, Computer System, Image and Video Processing, Speech Processing and Vision System. This group is led by Dr. Kamarul Hawari b. Ghazali

Control and Instrumentation
The research group under Control and Instrumentation is focused on control systems and instrumentation for industries in the fields of manufacturing, petrochemical and biotechnology. It is also capable in give expert support in biotech industries especially in the identification of appropriate instrument for specific purpose and also designing an effective control system. This group led by Dr. Hadi b. Manap

Contact
Dean
Faculty of Electrical & Electroncis Engineering
Universiti Malaysia Pahang
26600 Pekan, Pahang
Malaysia
Tel: 6(09)4242301
Fax: 6(09)4242302
http://fkee.ump.edu.my
FACULTY OF ELECTRICAL & ELECTRONICS ENGINEERING

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (ELECTRICAL)-RESEARCH

Research Thrust Areas

Electrical Power
- Renewable Energy
  - Sustainable development
  - Smart Grid System
- Power Drive System
  - Power Electronics & Drives system
  - Power system, Optimization & Reliability
  - Artificial Intelligence Applications in Power Electronics and Power System

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (ELECTRONICS)-RESEARCH

Research Thrust Areas

Electronics
- Image Processing
  - Computer Vision System
  - Machine Vision
  - Intelligent System
- Advanced Material
  - Nano device
  - Semiconductor system

- Micro Processing System
  - Artificial Intelligence
  - Digital Signal Processing
  - Electronics System

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (INSTRUMENTATION)-RESEARCH

Control and Instrumentation
- Dynamic System & Control
  - Control system
  - Estimation & Filtering
  - Computer Controlled System
  - Industrial Control Technology
- Intelligent Manufacturing
  - Real-Time System
- Robotics
  - Artificial Intelligence
- Sensor Instruments
- Noise Vibration
  - System Stability
FACULTY OF MANUFACTURING ENGINEERING

The Faculty of Manufacturing Engineering was established in 2008 with the target to produce competent professionals for the manufacturing industry. Being an industry-driven faculty, the faculty offers several academic programs which are significant in preparing students with essential engineers attributes such as solid scientific foundation, psychomotor skills, critical thinking skills, communication skills, and entrepreneurship. The faculty consists of two programmes: Manufacturing Engineering and Mechatronics Engineering Programmes.

Contact
Dean
Faculty of Manufacturing Engineering
Universiti Malaysia Pahang
26600 Pekan, Pahang
Malaysia
Tel: 6(09)4242377
Fax:6(09)4242379
http://fkp.ump.edu.my

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (MECHATRONICS)- research

Research Thrust Areas

Mechatronics

- Haptic Interface
- Fully Flexible Assembly Systems
- Energytronics: Mechatronics for Alternative Energies
FACULTY OF MANUFACTURING ENGINEERING

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (MANUFACTURING)- RESEARCH

Research Thrust Areas

Computer Integrated Manufacturing
- Machine to Machine Negotiation
- Ambient Intelligence for SMEs
- Enterprise Modelling
- CAD/CAM, process and production planning
- CAD Modelling
- Tool Path Generation & NC-Programming
- Process & Operations Planning

Material Engineering
- Friction Surfacing
- Cryogenic Grinding
- Superabrasive Turning
- Nanogrind
- Ductile Machining of Brittle Materials

Manufacturing Systems
- Advanced Automation
- Discrete Event Simulation
- Simulation of Business Processes
- Process Chain
- Hypermedia Task Support Systems

- Ultra Precision Technology

Computer Aided Engineering
- constructive solid geometry (CSG) modelling system
- geometric and topological computing
- solid modeling and computational geometry

Automation and Robotics
- Ultraprecision Technologies
- Precision manufacturing
- Rate-to-Force Control
- Magnetic Field Computation for Actuator Design
- Vision Based Motion Control

Computational Optimisation
- Thermal Modelling of Grinding Processes
- Casting Process Optimization
- Conic Programming
- Nonlinear Optimization
- Computational Optimization, Design and Control

Industrial Engineering
- Manufacturing Systems Maintenance
FACULTY OF MECHANICAL ENGINEERING

The mechanical engineering graduate program is designed to offer an advanced level of study in specific aspects of mechanical engineering that are in demand from industry. The faculty of Mechanical Engineering has strong links with industry in the East Coast Region. The faculty is organized into several research thrust areas that usually capture the broad range of interests and activities within it. These research thrust areas are as follows:

Advanced Materials and Structure
The group conducts research on the fatigue and fracture, corrosions, failure analysis, pressure vessels, innovative materials, modeling, simulation and design optimization. Contact: syahrizan@ump.edu.my

Computer Analysis
The focus of the group is on the solution of engineering problems through computational and simulation approach involving thermal-fluid and solid mechanics related problems. Contact: k.v.sharma@ump.edu.my

Energy Sustainability
This group focuses on fundamental and applied research in thermodynamics, reactive flows, micro and nanotechnologies, photovoltaics; off-shore wind energy; engines and transportation, cryogenics, high efficiency low emission systems, CO₂ capture and renewable energy. Contact: shahran@ump.edu.my

Future Engine and Fuels
This group conducts research, consultation and services on automotive engine, hybrid vehicles, combustion & emission control, biofuel and additives. Contact: rosli@ump.edu.my

Noise and Vibration Control
The group conducts research on noise and vibration control systems, passive and active damping, structural dynamics, acoustic emission and noise monitoring. Contact: razlan@ump.edu.my

Manufacturing Process
The group interest is on the sustainable manufacturing process and it focuses on the manufacturing processes includes welding, machining, laser processing, grinding, forging, milling process, sheet metal forming and metal casting. Contact: mahadzir@ump.edu.my

Sports and Human Engineering
The focus of this group is on sports engineering, ergonomics, biomechanics, image processing and sensor instruments. Contact: rasdan@ump.edu.my

Contact
Dean
Faculty of Mechanical Engineering
Universiti Malaysia Pahang
26600 Pekan, Pahang, Malaysia
Tel: 6(09)4242201
Fax: 6(09)4242202
http://fkm.ump.edu.my
FACULTY OF MECHANICAL ENGINEERING

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (MECHANICAL ENGINEERING) - RESEARCH

Research Thrust Areas

Advanced Materials and Structure
- Advanced materials-metal
  - Fatigue and fracture
  - Corrosions
- Finite element analysis
  - Structural design
  - Durability/ failure analysis
  - Multidisciplinary optimization

Manufacturing Process
- Intelligent manufacturing
- Laser machining
- Welding
- Micro/Nano machining
- Non-conventional manufacturing process
- Furnace/foundry equipments development
- Casting process for new alloy
- Metal forming
- Grinding, forging and milling process

Energy Sustainability
- Solar energy
- Wave energy
- Wind energy
- Power drive system
  - Transformation of energy
  - Thermal management & control

Noise and Vibration Control
- Dynamics system and control
  - Structural dynamics
  - Passive and active damping
  - Suspension system
- Noise monitoring and measurement
- Acoustic emission
- Vibration control
- Self excited vibration

Computer Analysis
- Computational fluid dynamics
- Fluid flow
- Thermal energy
  - Heat transfer
  - Solid mechanics

Future Engine and Fuels
- Internal combustion engine
  - Diesel/Gasoline/Hydrogen engine
- Stirling engine & hybrid engine
- Combustion engineering
  - Turbine jet
  - Industrial burner & furnace
  - Solid propulsion
- Fuel & lubricants
  - Biofuel, alternative fuel & additives
  - Advanced lubricants
- Emission control

Sports and Human Engineering
- Image processing
- Biosensors & instrument
- Ergonomics
  - Biomechanics
- Sports equipment
AUTOMOTIVE ENGINEERING CENTRE

The Automotive Engineering Centre (AEC) is a center of excellence at the Universiti Malaysia (UMP) offers Master of Engineering (MEng) and Doctor of Philosophy programs in Automotive Engineering. The AEC strives to deliver the highest quality automotive engineering education through research excellence, a high-tech enlightening environment and innovative programs, to provide graduates with the knowledge and skills needed to succeed and become leaders of tomorrow. Experts in automotive engineering are poised to develop innovations that will change society and address global problems. The centre is organized into five research thrust areas that usually capture the broad range of interests and activities within it. These thrust areas are:

- Automotive manufacturing and materials
- Fuels, lubrication and Electric/Hybrid vehicles
- Vehicle dynamics, design and control
- Vehicle energy management
- Automotive communications and electronics

Automotive Manufacturing and Materials Thrust Area focuses on the new technologies for manufacturing processes that reduce weight, costs and time to produce automotive components and systems. It strives to improve the quality of the manufactured parts, by improving the flexibility and efficiency of manufacturing processes.

Alternative Fuels, Lubrication and Electric/hybrid Vehicles Thrust Area focuses on the next generation design of green vehicles that will transform the automotive industry. Future vehicles need to reduce the environmental impact of greenhouse gas emissions, and their reliance on fossil fuels.

Vehicle Dynamics, Design and Control Thrust Area focuses on the new innovative technologies for active suspensions, design optimization for vehicles, NVH, powertrain and braking systems for vehicles. The research conducts control systems using multi-body vehicle system modeling, simulations and validation.

Vehicle Energy Management Thrust Area focuses on the advanced new technologies needed for more efficient energy management and heating/cooling of vehicles, particularly for electric and hydrogen vehicles.

Automotive Communications and Electronics Thrust Area focuses on the innovative application of information and communications technologies (ICT) to automotive systems.

Contact
Director
Automotive Engineering Centre
Universiti Malaysia Pahang
26600 Pekan, Pahang, Malaysia
Email: director_aec@ump.edu.my
Tel: 6(09)4242301
Fax: 6(09)4242202
AUTOMOTIVE ENGINEERING CENTRE

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (AUTOMOTIVE)- RESEARCH

Research Thrust Areas

Automotive Manufacturing and Materials
- Automotive assembly
- Finite element method and analysis
- Lighter weight materials
- Machining of automotive materials
- Manufacturing processes for cost reduction
- Quality and efficiency improvements
- Robotics system for vehicle
- Sheet metal stamping
- Smart materials
- Welding/Forging

Vehicle Dynamics, Design and Control
- Active vibration control/ Suspension system
- Automotive control/ Air pollution control
- Automotive design and styling
- Automotive electro-mechanical systems
- Design optimization for vehicles
- Fatigue and fracture/
- Structural durability
- Emission and exhaust control
- Emission control devices
- Fuelling/ Intake systems
- Integrated vehicle control systems
- In-vehicle safety and steering systems
- NVH

- Powertrain engineering/ Chassis engineering
- Steer by wire/ Braking system
- Vehicle stability control
- Vehicle system dynamics

Vehicle Energy Management
- Clean combustion technology
- Computational fluid dynamics
- Energy storage and battery
- HVAC systems
- Thermal and fluid-structure interaction
- Vehicle aerodynamics
- Vehicle thermal modeling
- Engine Testing and Instrumentation

Alternative Fuels, Lubrication and Electric/Hybrid Vehicles
- Advanced hybrid powertrain
- Alternative fuels (Hydrogen, Bio-fuel)
- Battery module design
- Future automotive fuels
- Life cycle assessment
- Lubrication and tribology
- Vehicle control systems

Automotive Communications and Electronics
- Automotive software and control systems
- Intelligent vehicle
- Onboard navigation
- Automotive electronics and mechatronics for performance enhancement.
- Wireless communications for vehicular applications
FACULTY OF INDUSTRIAL SCIENCES & TECHNOLOGY

The Faculty offers courses in science and technology that are relevant to today’s industry, and to address the need for increased manpower requirements in Science and Technology. It is also aligned to the national goal to increase knowledgeable and competent human capital, namely, Research Scientists and Engineers (RSE). The Faculty is equipped with state-of-the-art facilities to support graduate students in their research.

There are four main focus areas in the Faculty:

**Advanced Materials**
This group conducts research on Renewable Energy, Catalysis, Liquid Crystals, Composite and Nanotechnology. The group is led by Professor Dr. Jose Rajan.

**Environment & Food**
This group conducts research on Halal Food, Oleochemistry and Soil & Water. The group is lead by Associate Professor Dr. Rossi Setiadji.

**Futures & Trends**
This group conducts research on Mathematical Modeling and Fundamentals of Mathematical Sciences. The group is led by Dr. Mohd. Zuki Salleh.

**Natural Products & Biotechnology**
This group conducts research on Medicinal Chemistry, Essential Oils, Bioremediation and Industrial Microbes & Enzymes. The group is led by Professor Dr. Mashitah Mohd. Yusoff.

**Contact**
Dean
Faculty of Industrial Sciences & Technology
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Gambang
Kuantan, Pahang
MALAYSIA
Tel: 609-549 2767/2765/2371
Fax: 609-549 2766
http://fist.ump.edu.my
FACULTY OF INDUSTRIAL SCIENCES & TECHNOLOGY

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (BIOTECHNOLOGY) – RESEARCH

Research Thrust Areas

Biotechnology
- Industrial Biochemistry/ Enzyme Technology
  o Bionanotechnology
  o Bioremediation
  o Cell Culture Technology
  o Biosensor/Diagnostic Kits
  o Enzyme Technology
  o Industrial Biochemistry
  o Industrial Microbiology

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (CHEMISTRY) – RESEARCH

Research Thrust Areas

Chemistry
- Chemical and Biotransformation
  o Analytical and Environmental Chemistry
  o Chemical Synthesis
- Natural Products
  o Oleochemistry
  o Petrochemistry
  o Polymer Chemistry

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (ADVANCED MATERIAL) – RESEARCH

Research Thrust Areas

Advanced Material
- Advanced Material
  o Photovoltaics
  o Nanostructured materials
  o Polymer nanocomposites

Environmental Monitoring and Characterisation
- Fine & Specialty Chemicals
- Catalysis
- Resource Recovery
FACULTY OF INDUSTRIAL SCIENCES & TECHNOLOGY

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (FOOD TECHNOLOGY) — RESEARCH

Research Thrust Areas
Food Technology
• Natural Products
  o Instantisation
  o Freeze-drying
  o Supercritical Fluid Extraction

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (FOOD SCIENCES) — RESEARCH

Research Thrust Areas
Food Sciences
• Biosensor / Diagnostic Kits
  o Food Chemistry
  o Food Microbiology
  o Sensory Analysis

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (PHYSICS) - RESEARCH

Research Thrust Areas
Physics
• Materials
  o Semiconductor physics
  o Optical physics

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (MATHEMATICS) — RESEARCH

Research Thrust Areas
Mathematics
• Advanced and Emerging Methods in Mathematics including Technology Forecasting
  o Fluid Mechanics
  o Heat and Mass Transfer
  o Group Theory

MASTER OF SCIENCES AND DOCTOR OF PHILOSOPHY (STATISTICS) — research

Research Thrust Areas
Statistics
• Advanced and Emerging Methods in Mathematics including Technology Forecasting
  o Quality & Productivity Improvement
  o Stochastic & Numerical Methods
  o Meteorological Forecasting
  o Rainfall Modeling
  o Financial Mathematics
FACULTY OF CHEMICAL & NATURAL RESOURCES ENGINEERING

Faculty of Chemical and Natural Resources Engineering (FKKSA) of UMP was established in 2002 with the aim of providing engineering programmes in the field of chemical and natural resources engineering. The faculty is also tasked to embark on research and development activities, particularly in the area of fine and specialty chemicals, chemical process up-scaling and biotechnology-related processes in order to generate expertise relevant to the needs of the industry especially the nearby Gebeng, Kerteh and Paka Industrial Area. Various research activities in the chemical engineering and industrial biotechnology-related area have been conducted with the aim of developing indigenous resources. The broad areas of research in the faculty are as follows:

- Industrial Biotechnology
- Renewable Energy
- Separation Processes
- Fluid Flow
- Advance Material
- Reaction Engineering
- Food/Pharmaceutical/Drug
- Combustion/Explosion Engineering
- Process Control, Instrumentation and Optimization
- Environmental Engineering
- Computational Fluid Dynamic (CFD)

The research and development activities are supported by the state-of-art facilities in the Chemical Engineering Laboratory and the expertise in various research areas. The details of the facilities and expertise could be obtained through the FKKSA’s website.

Contact
Dean
Faculty of Chemical and Natural Resources Engineering
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Gambang, Kuantan, Pahang.
Malaysia.
Tel: +6(09)5492875
Fax: +6(09)5492889
http://fkksa.ump.edu.my
FACULTY OF CHEMICAL & NATURAL RESOURCES ENGINEERING

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (CHEMICAL ENGINEERING) - RESEARCH

Research Thrust Areas
- Catalyst and Reaction Engineering
- Chemical Engineering Design
- Chemical Process Simulation
- Chemical/ Physical Modification
- Fluid Mechanics
- Heat/ Mass Transfer Operations
- Indigenous Raw Materials Processing
- Industrial Chemical Production
- Plant Design and Testing
- Polymerisation Process
- Process Control

Admission Requirements
Applicants should possess the following:

MSc
A Bachelor’s degree in Chemical/Bioprocess Engineering with a minimum CGPA of 2.75 or equivalent

PhD
A master’s degree or equivalent in a related field

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (BIOPROCESS ENGINEERING) - RESEARCH

Research Thrust Areas
- Bioconversion
- Biofertilizer
- Biofuel
- Bioplastic
- Bioprocess Design
- Bioseparation
- Design Technology
- Downstream Processing
- Enzyme Technology
- Fermentation Technology
- Immobilized Technology
- Product Recovery
FACULTY OF CHEMICAL & NATURAL RESOURCES ENGINEERING

MASTER OF ENGINEERING WITH ENTREPRENEURSHIP- COURSEWORK

The Master of Chemical Engineering with Entrepreneurship programme is designed to produce techno- and corporate-entrepreneur in the chemical related industry. For the award of the Master’s degree, a candidate is required to accumulate 42 credit hours (CR). 15 CR from engineering courses, 15 CR from entrepreneurship courses, 6 CR from master project and 6 CR from elective courses. The elective courses encompass subjects in both the area of engineering and entrepreneurship. The minimum period for graduation is 3 semesters and maximum 6 semesters. The followings are the program plan:

Semester 1
- Transport Phenomena
- Advanced Chemical Reaction Engineering
- Accounting and Financing for Entrepreneur
- Business Law
- Chemical product design and management

Semester 2
- Advanced Separation System
- Advanced Process Control & Instrumentation

Semester 3
- Business Practices
- Entrepreneurship Business Plan
- Elective I

Admission Requirements
Applicants should possess the following:
- Bachelor degree in Chemical Engineering from Public Institution of Higher Learning (IPTA) or Private Institution of Higher learning (IPTS) recognized by UMP Senate with CPA 2.70, or
- Bachelor degree in Engineering or Science from Public Institution of Higher Learning (IPTA) or Private Institution of Higher learning (IPTS) recognized by UMP Senate with minimum 3 years working experience especially related to chemical or petrochemical industry.
FACULTY OF CIVIL ENGINEERING & EARTH RESOURCES

The Faculty offers postgraduate programmes in Innovative Construction, Geotechnical & Transportation and Environmental Engineering. Other supportive areas of research include potable water supply and smart traffic engineering.

The Environmental and Chemical Laboratory at the faculty has been accredited and it is the centre for testing samples in the eastern region of Peninsular Malaysia. The Faculty provides excellent research opportunities for students in all fields of science, engineering and technology.

Innovative Construction Expert Group
This is one of the expert groups in the Faculty of Civil Engineering which is focused on innovative construction of structures and use of materials which includes the Industrialised Building Systems, Sustainable Green Index Construction, Intelligent Building Maintenance, Innovative Construction Materials and Information Technology in Construction. This group has interesting projects associated with IBS and innovative materials as experimental projects as well as the use of ICT in construction such as Construction Industry Value Chain, Facilities Management and Building Information Modelling. This group is headed by Prof Datin Dr Nasly Mohamed Ali.

Environmental Engineering
Environmental Engineering and Hydrodynamics includes Domestic and Industrial Wastewater Treatment and Clean Energy Production. The Expert Group is an active group involving Sustainable Water & Wastewater Treatment & Reuse, Sustainable Management of Municipal & Industrial Wastes, and Waste to Wealth/Resource recovery. This team is headed by Assoc Prof Dr Zularisam Abd Wahid.

Geotechnical & Transportation
Sustainable Highway & Transportation Index, Highway materials and safety, Soil improvement and GIS & Remote Sensing. This expert group is headed by Prof Engr Dr Ideris Zakaria

Contact
Dean
Faculty of Civil Engineering and Earth Resources
Universiti Malaysia Pahang
26300 Gambang, Kuantan, Pahang
Malaysia
Tel: 6(09) 5492999
Fax:6(09) 5492998
http://fkasa.ump.edu.my
FACULTY OF CIVIL ENGINEERING & EARTH RESOURCES

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (CIVIL ENGINEERING)- RESEARCH

Research Thrust Areas

Structures and Materials
- Industrialized Building System
  - Steel frames and trusses
  - Interlocking load bearing blocks
- Innovative construction material
  - Fibre Reinforced Concrete
  - High Strength Concrete
  - In Field Treatment Process
  - Lightweight Concrete
  - Concrete Materials
- Sustainable Construction
  - Structural Engineering
  - Building Engineering

Geotechnical And Highway Engineering
- Sustainable Highway & Transportation Index
- Highway safety
- Highway material
- Soil improvement
- GIS & Remote Sensing

MASTER OF ENGINEERING AND DOCTOR OF PHILOSOPHY (CONSTRUCTION)- RESEARCH

Research Thrust Areas

ICT in Construction
- Finite Element Analysis
- Database & Information Systems
  - Building Information Modelling

Building & Construction
- Sustainable Construction
  - Facilities Management
  - Building Maintenance
- Construction Industry Value Chain
- Construction Project Management
- Green Building Index
CENTRE FOR EARTH RESOURCES RESEARCH & MANAGEMENT

MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY (ENVIRONMENTAL TECHNOLOGY)-RESEARCH

Research Thrust Areas

Environmental Technology
- Waste to Wealth/ Resource recovery
- Environmental Monitoring and Characterization
- Environmental Engineering & Hydrodynamic
- GIS & Remote Sensing
  - River Basin and Flood Control

MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY (ENVIRONMENTAL MANAGEMENT)-RESEARCH

Research Thrust Areas

Environmental Management
- Sustainable Water & Wastewater Treatment & Reuse
- Sustainable Management of Municipal & Industrial Wastes
FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING

The computer systems & software engineering graduate program is designed to offer advanced knowledge in the specific aspects of computer science. The purpose of our graduate programs is to provide the continuous learning environment as well as to fulfill the need of postgraduate students at the East Coast of Malaysia. Currently, there are 4 research groups under our faculty which strongly reflect our expertise and research. These research groups’ areas are as follows:

Data Mining & Knowledge Management (DMKM)
This group is directed to conduct and promote advanced interdisciplinary research within UMP on various aspects related to Data Mining and Knowledge Management, to collaborate with other researchers both nationally and internationally, and to transfer the outcomes of our researches to the industry, the government and the public sector. This group is led by Dr. Tutut Herawan.

Software Engineering (SE)
This group involves in researches relates to human computer interaction, software and system design and process management inspired by soft computing techniques. Our research initiative is towards to enhance the software quality, maintainability and development process. This group is led by Dr. Rohani Abu Bakar.

System Network & Security (SysNets)
SysNets Research group was formed to initiate and encourage research activities in the area of computer systems and network security. Research projects in the group focus on various aspects of network and computer security. The aim of the group is to collaborate with industry and participate in academic research activities, as well as to provide an active base for postgraduate and postdoctoral research. This group is led by Mohamed Ariff Ameedeen.

Graphic and Multimedia (GMM)
The group acknowledges the versatility and strength of image processing and multimedia. Therefore, the realization for making the application of this paradigm more beneficial for mankind, it showed an inflexible determination for collaborating with other faculties and the industries. This collaboration has created chances for opening new research avenues in the highly demanding areas like, biomedical engineering, biotechnology, advance manufacturing and automotive engineering. This group led by Dr. Mohammad Masroor Ahmed.

Contact
Dean
Faculty of Computer Systems & Software Engineering
Universiti Malaysia Pahang
26300 Gambang, Pahang
Malaysia
Tel: 6(09) 5492133
Fax: 6(09) 5492144
FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING

MASTER OF SCIENCE (COMPUTER)
MASTER OF SCIENCE (SOFTWARE ENGINEERING)

AND DOCTOR OF PHILOSOPHY
(COMPUTER SCIENCE) - RESEARCH

Research Thrust Areas

Data Mining & Knowledge Management

Data Mining
- Association Rules Mining
- Classification
- Cloud Computing
- Data Classification and Clustering
- Data Mining in Engineering
- Data Mining Visualization
- Decision Support System
- Distributed Database
- Educational Data Mining
- Grid Computing
- Rough Set Theory
- Soft Computing
- Soft Set Theory
- Scheduling
- Web Mining

Knowledge Management
- Knowledge Based System
- Knowledge Engineering
- Knowledge Audit
- Knowledge Flow Analysis
- Knowledge Representation
- Application of Knowledge in Real Life
- Knowledge Visualization

Software Engineering
- Human Computer Interaction
- Soft Computing Techniques
- Software Process Management
- System Design
- Software Development Methodology & Environment
- Software Testing and Quality Assurances

System Network & Security
- Cloud and distributed computing
- Wireless network
- Mobile communication
- Network monitoring
- Information security
- Parallel processing
- Sensor network

Graphic & Multimedia
- Image processing
- Virtual Reality
- Multimedia Interactive Development
- Data Visualization
- Computer Vision
Faculty of Computer Systems & Software Engineering

Master of Science – Coursework
Master of Science (Information & Communication Technology)

This conversion course is designed to develop the technical, analytical and professional skills required for a computing role. It may be taken to integrate professional computing skills into your current discipline or to start a new and rewarding career within computing/IT.

Semester 1
- Problem Solving in ICT
- Data Management
- Data Communication & Networking
- Software Application Development
- Current Issues in ICT

Semester 2
- Web Technologies
- Information Security

Semester 3
Project
- Research Methodology
- Project Management 1
- Elective 1

Admission Requirements
Applicants should possess the following:
- Bachelor degree in Science from Public Institution of Higher Learning (IPTA) Private Institution of Higher learning (IPTS) recognized by UMP Senate with CPA 2.70 and above, or
- A qualification deemed to be equivalent with some experience in related area as approved by UMP Senate, if required, shall satisfy the examiners in a qualifying examination, or
- For applicants which are not in Science field should have at least 3 years working experience in IT related field.
FACULTY OF TECHNOLOGY

Faculty of Technology was established on September 12/2011 after the separation between Department of Technology Management and Department of Manufacturing Engineering. This faculty formerly known as Faculty of Manufacturing Engineering & Technology (FKPPT) was established in 2008. The focus of the faculty is to produce competent professionals for the university and to establish strong technology and business education in research and innovation that fulfill local and international industries requirement.

Contact

Dean Faculty of Technology
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Kuantan Pahang Darul Makmur
Tel: 609‐5492166/2161/2634
Fax: 09‐5492167
Email: fetch@ump.edu.my

DOCTOR OF PHILOSOPHY
(TECHNOLOGY MANAGEMENT‐RESEARCH)

MASTER OF TECHNOLOGY MANAGEMENT
(INDUSTRIAL SAFETY AND HEALTH)‐RESEARCH

• Safety and Health
  o Building audit and facility maintenance
  o Passive design and sustainability
  o Occupational safety and health management

• Ergonomics
  o Human factor and system design
  o Occupational health and hygiene
  o Assessment of workplace
  o Control of occupational exposure
  o Occupational toxicology

• Environmental
  o Management of industrial waste
  o Water pollution control

FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING

Master of Science (Software Engineering)

Designed for graduates of computing disciplines, this course includes a process-oriented approach to the subject and features study of advanced technological developments and several other issues related to the software industry. It helps the students to build a strong foundation of theory and best-practice knowledge, which they can apply in a variety of technical and business environments today and in the future.

Semester 1
• Software Engineering Boot Camp
• Human Aspect of Software Engineering
• Architectures for Software System Software Configuration and Management

Semester 2
• Research Methodology
• Project Management
• Elective I
• Elective II

Semester 3
• Project

Master of Science (Computer Networking)

Designed for graduates of computing based disciplines, this course is designed to address a specific need in the computer networking industry which blends the technical and management aspects of computer networking to offer student a unique educational opportunity. It is intended for students who wish to specialize in the security aspects of the computer networking field.

Semester 1
• Current Issues in Networking
• Network Analysis and Design
• Network Security
• Network Performance

Semester 2
• Research Methodology
• Project Management
• Elective I
• Elective II

Semester 3
• Project

Admission Requirements

Applicants should possess the following:

• Bachelor degree in Computer Science or related fields from Public Institution of Higher Learning (IPTA) Private Institution of Higher learning (IPTS) recognized by UMP Senate with CPA 2.70 and above, or
• A qualification deemed to be equivalent with some experience in related area as approved by UMP Senate, if required, shall satisfy the examiners in a qualifying examination.
FACULTY OF TECHNOLOGY

Faculty of Technology was established on September 12/2011 after the separation between Department of Technology Management and Department of Manufacturing Engineering. This faculty formerly known as Faculty of Manufacturing Engineering & Technology Management (FKPPT) was established in 2008. The focus of the faculty is to produce competent professionals for the university and to establish strong technology and business education in research and innovation that fulfill local and international industries requirement.

Contact
Dean
Faculty of Technology
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Kuantan
Pahang Darul Makmur
Tel : 609-5492166/2161/2634
Fax : 09-5492167
Email fetch@ump.edu.my

DOCTOR OF PHILOSOPHY (TECHNOLOGY MANAGEMENT) - RESEARCH

MASTER OF TECHNOLOGY MANAGEMENT

(INDUSTRIAL SAFETY AND HEALTH) - RESEARCH

- Safety and Health
  - Building audit and facility maintenance
  - Passive design and sustainability
  - Occupational safety and health management
- Ergonomics
  - Human factor and system design
  - Occupational health and hygiene
  - Assessment of workplace
  - Control of occupational exposure
  - Occupational toxicology
- Environmental
  - Management of industrial waste
  - Water pollution control

Admission Requirements
Applicants should possess the following:
- Bachelor degree in Computer Science or related fields from Public Institution of Higher Learning (IPTA) Private Institution of Higher learning (IPTS) recognized by UMP Senate with CPA 2.70 and above, or
- A qualification deemed to be equivalent with some experience in related area as approved by UMP Senate, if required, shall satisfy the examiners in a qualifying examination.

DOCTOR OF PHILOSOPHY (TECHNOLOGY MANAGEMENT) - RESEARCH

MASTER OF TECHNOLOGY MANAGEMENT

(INDUSTRIAL SAFETY AND HEALTH) - RESEARCH

- Safety and Health
  - Building audit and facility maintenance
  - Passive design and sustainability
  - Occupational safety and health management
- Ergonomics
  - Human factor and system design
  - Occupational health and hygiene
  - Assessment of workplace
  - Control of occupational exposure
  - Occupational toxicology
- Environmental
  - Management of industrial waste
  - Water pollution control

Admission Requirements
Applicants should possess the following:
- Bachelor degree in Computer Science or related fields from Public Institution of Higher Learning (IPTA) Private Institution of Higher learning (IPTS) recognized by UMP Senate with CPA 2.70 and above, or
- A qualification deemed to be equivalent with some experience in related area as approved by UMP Senate, if required, shall satisfy the examiners in a qualifying examination.

FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING

Master of Science (Software Engineering)

Designed for graduates of computing disciplines, this course includes a process-oriented approach to the subject and features study of advanced technological developments and several other issues related to the software industry. It helps the students to build a strong foundation of theory and best-practice knowledge, which they can apply in a variety of technical and business environments today and in the future.

Semester 1
- Software Engineering Boot Camp
- Human Aspect of Software Engineering
- Architectures for Software System
- Software Configuration and Management

Semester 2
- Research Methodology
- Project Management
- Elective I
- Elective II

Semester 3
- Project

Master of Science (Computer Networking)

Designed for graduates of computing based disciplines, this course is designed to address a specific need in the computer networking industry which blends the technical and management aspects of computer networking to offer student a unique educational opportunity. It is intended for students who wish to specialize in the security aspects of the computer networking field.

Semester 1
- Current Issues in Networking
- Network Analysis and Design
- Network Security
- Network Performance

Semester 2
- Research Methodology
- Project Management
- Elective I
- Elective II

Semester 3
- Project
CENTRE
FOR
MODERN
LANGUAGES
&
HUMAN
SCIENCES

The Centre for Modern Languages and Human Sciences (CMLHS) was established to complement the development of students’ technical and engineering knowledge; as knowledge and skills in engineering alone are insufficient to produce competitive graduates.

The centre is divided into four departments, which are the Human Sciences Department, the Modern Languages Department and Foreign Languages Department. Being a service centre, we not only provide University core courses, but our responsibilities include providing training for students and staff such as MUET, Study Skills, IELTS, English and Communication Course, Islamic Services Course and biofeedback. We also provide external trainings and consultancies to local and multinational organizations.

EXPERT GROUPS AND NICHE AREAS

Here at CMLHS, our knowledge, skills and niche areas are classified and manifested through 5 significant Expert Groups which are:

- Human Performance lead by Assoc. Prof. Dr. Muhammad Nubli Wahab
- Human Environment lead by Dr. Hasan Ahmad
- Language & Communication lead by Dr. Zailin Shah Yusoff
- Engineering Education lead by Assoc. Prof. Ainol Haryati Ibrahim
- Pahang Heritage Trail by Assoc. Prof. Dr. Normah Othman

Contact
Dean Centre for Modern Languages & Human Sciences
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Kuantan, Pahang, Malaysia
Tel: 6(09) 5493111
Fax: 6(09) 5493112
cmlhs@ump.edu.my
http://cmlhs.ump.edu.my

FACULTY OF TECHNOLOGY

MASTER OF TECHNOLOGY MANAGEMENT

(OPTION MANAGEMENT)- RESEARCH

- Dynamic System & Control
  - Simulation Modeling
  - Public Transport Modeling
  - Stochastic Modeling
  - Forecasting
  - Product Development
  - Business Process Design, Analytics and Mining
  - Modeling Software
  - Supply Chain Management
- Process control, instrumentation and optimization

MASTER OF TECHNOLOGY MANAGEMENT

(HUMAN CAPITAL RESOURCE)- RESEARCH

- Human Environment
- Human Performance and Soft Skills
  - Industrial Psychology
  - Organizational behavior

MASTER OF TECHNOLOGY MANAGEMENT

(PROJECT MANAGEMENT)- RESEARCH

- Industrial Technology Project Management
  - Project scope management
  - Project quality management
  - Project cost management
  - Project time management
  - Project procurement & contract management
  - Project risk management
  - Project integration management
  - Project human resource management
  - Project communications management
CENTRE FOR MODERN LANGUAGES & HUMAN SCIENCES

The Centre for Modern Languages and Human Sciences (CMLHS) was established to complement the development of students’ technical and engineering knowledge; as knowledge and skills in engineering alone are insufficient to produce competitive graduates.

The centre is divided into four departments, which are the Human Sciences Department, the Modern Languages Department and Foreign Languages Department.

Being a service centre, we not only provide University core courses, but our responsibilities include providing training for students and staff such as MUET, Study Skills, IELTS, English and Communication Course, Islamic Services Course and biofeedback. We also provide external trainings and consultancies to local and multinational organizations.

EXPERT GROUPS AND NICHE AREAS
Here at CMLHS, our knowledge, skills and niche areas are classified and manifested through 5 significant Expert Groups which are

- Human Performance lead by Assoc. Prof. Dr. Muhammad Nubli Wahab
- Human Environment lead by Dr. Hasan Ahmad
- Language & Communication lead by Dr. Zailin Shah Yusoff
- Engineering Education lead Assoc. Prof. Ainol Haryati Ibrahim
- Pahang Heritage Trail by Assoc. Prof. Dr. Normah Othman

Contact
Dean
Centre for Modern Languages & Human Sciences
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Kuantan, Pahang, Malaysia
Tel: 6(09) 5493111
Fax: 6(09) 5493112
cmlhs@ump.edu.my
http://cmlhs.ump.edu.my
CENTRE FOR MODERN LANGUAGES & HUMAN SCIENCES

**DOCTOR OF PHILOSOPHY (HUMANITIES TECHNOLOGY)- research**

Master of Humanities Technology (Halal Management System)-Research

**MASTER OF HUMANITIES TECHNOLOGY (HUMAN PERFORMANCE)- RESEARCH**

**MASTER OF HUMANITIES TECHNOLOGY (TECHNOLOGY ENHANCED LANGUAGE LEARNING)- research**

**MASTER OF HUMANITIES TECHNOLOGY (ENGLISH LANGUAGE & PROFESSIONAL COMMUNICATION)- research**

**How to Apply**

Application needs to be done online through our website [http://pps.ump.edu.my](http://pps.ump.edu.my). All supporting documents as well as qualifications to satisfy the entry requirements, such as academic transcripts and degree scrolls, English language proficiency as well as your identity documents and proof of payment. These documents must be sent in hardcopy (certified by an academic or your employer) as soon as the online application is made. CGS will acknowledge receipt of your documents and you will receive an offer letter if your application is successful.

**When to Apply**

Applications for programmes by coursework is opened twice a year, usually in January and July. It is important to check the deadline for your chosen programme. Applications received before the deadlines will be processed promptly, while applications received past the deadlines, will be processed only if vacancies are available for the selected programme.

**Terms and Conditions**

If you accept the offer of a place at the Universiti Malaysia Pahang a contract is formed. The terms of this contract include the following conditions, and your acceptance of a place is expressly subject to them:

As a condition of enrolment you will need to:

• Produce a proof of identity
• Produce documentary evidence that you satisfy the entry requirements of the course, or have qualifications deemed equivalent by the University
• Pay the fees prescribed for the course in accordance with published payment schedules, or produce acceptable evidence of sponsorship

As a condition of enrolment you must also abide by the University’s Memorandum and Articles, Statutes, Regulations, Rules, Procedures and Codes of Conduct as amended from time to time under the authority of the Court of Governance or the Senate.

All matters within the Prospectus are subject to change from time to time in the discretion of the University.
**HOW TO APPLY**

Application needs to be done online through our website http://pps.ump.edu.my. All supporting documents as well as qualifications to satisfy the entry requirements, such as academic transcripts and degree scrolls, English language proficiency as well as your identity documents and proof of payment. These documents must be sent in hardcopy (certified by an academic or your employer) as soon as the online application is made. CGS will acknowledge receipt of your documents and you will receive an offer letter if your application is successful.

**WHEN TO APPLY**

Applications for programmes by coursework is opened twice a year, usually in January and July. It is important to check the deadline for your chosen programme. Applications received before the deadlines will be processed promptly, while applications received past the deadlines, will be processed only if vacancies are available for the selected programme.

Applications for graduate studies programmes by research mode is open throughout the year.

**TERMS AND CONDITIONS**

If you accept the offer of a place at the Universiti Malaysia Pahang a contract is formed. The terms of this contract include the following conditions, and your acceptance of a place is expressly subject to them:

As a condition of enrolment you will need to:
- Produce a proof of identity
- Produce documentary evidence that you satisfy the entry requirements of the course, or have qualifications deemed equivalent by the University
- Pay the fees prescribed for the course in accordance with published payment schedules, or produce acceptable evidence of sponsorship

As a condition of enrolment you must also abide by the University’s Memorandum and Articles, Statutes, Regulations, Rules, Procedures and Codes of Conduct as amended from time to time under the authority of the Court of Governance or the Senate.

All matters within the Prospectus are subject to change from time to time in
particular, while the University will use all reasonable endeavours to deliver the courses and other educational services as set out in this Prospectus, circumstances may change, and the University reserves the right to vary the content and delivery of courses, to change the location of courses, modules or services, to discontinue or combine courses, or to discontinue services, if such action is reasonably considered necessary by the University. The University does not accept responsibility and expressly excludes liability for damage to student property or intellectual property other than through the proven negligence of the University, its staff or agents, or for the consequences of any modifications or cancellation of courses, modules or services as set out in the previous paragraph.
particular, while the University will use all reasonable endeavours to deliver the courses and other educational services as set out in this Prospectus, circumstances may change, and the University reserves the right to vary the content and delivery of courses, to change the location of courses, modules or services, to discontinue or combine courses, or to discontinue services, if such action is reasonably considered necessary by the University.

The University does not accept responsibility and expressly excludes liability for damage to student property or intellectual property other than through the proven negligence of the University, its staff or agents, or for the consequences of any modifications or cancellation of courses, modules or services as set out in the previous paragraph.
GRADUATE STUDIES
PROSPECTUS 2012
Centre for Graduate Studies
Universiti Malaysia Pahang
Lebuhraya Tun Razak
26300 Kuantan
Pahang
Tel : 609-549 2060/2578/2081
Fax : 609-549 2662
Email : cgs@ump.edu.my / csgump2010@gmail.com