Universiti Malaysia PAHANG
Engineering · Technology · Creativity

IPS
Institute of Postgraduate Studies

REGISTRATION FORM
IPS POSTGRADUATE COMPETENCY COURSES

PART A - APPLICANT DETAILS (TO BE COMPLETED BY STUDENT)

1. STUDENT NAME : ....

2. STUDENT ID NO : ....

3. PROGRAMME : PHD / MSC / MSC COURSEWORK (*circle whichever applicable)

4. MAIN SUPERVISOR : ....

5. FACULTY : .... STUDY MODE :FULL TIME / PART TIME

6. TELEPHONE NO : .... REGISTRATION DATE :................

7. EMAIL ADDRESS : .... SIGNATURE :............................ ......

8. REGISTRATION OF IPS POSTGRADUATE COMPETENCY COURSES. Please tick 3 Courses in the table
The timetable for the course offering can be obtained from IPS website.

NO.	CODE	LIST OF COURSES	PLEASE TICK
ENGINEERING MATHEMATICS:			
1.	UIM1113	Advanced Numerical Methods	
2	UIM1123	Optimization Techniques	
3	UIM1133	Mathematical Modelling	
ENGLISH AND PRESENTATION SKILLS:			
4.	UIE1113	Preparatory English for Postgraduate	
5.	UIE1123	Scientific English Communication	
6.	UIE1133	Presentation Skills	
7.	UIE1143	Research Project Presentation Skills Pre-requisite: Research Methodology or Thesis Writing 1	
STATISTICS AND DATA ANALYSIS:			
8.	UIS1113	Descriptive Statistics	
9.	UIS1123	Inferential Statistics	
10.	UIS1133	Statistical Modelling	
11.	UIS1143	Structural Equation Modelling	
RESEARCH METHODOLOGY:			
12.	UIR1113	Research Methodology for Engineering, Science and Technology	
13.	UIR1123	Research Methodology for Social Science and Humanities	
14	UIR1133	Philosophy of Research	
THESIS WRITING :			
15.	UIT1113	Thesis Writing 1	
16.	UIT1123	Thesis Writing 2 Pre-requisite : Thesis Writing 1	

PART B AND PART C NEED TO BE COMPLETED.
IF STUDENT IS PAYING ON HIS/HER OWN, ONLY PART D IS REQUIRED TO BE COMPLETED.

PART B – GRANT INFORMATION

1. GRANT TITLE : _____

2. GRANT NO : _____

3. TYPE OF GRANTS : PGRS/FRGS/ UMP RDU/ UIC / UMP FLAGSHIP (*circle the appropriate grant)

Others : Please specify – _____

4. SUPERVISOR (PROJECT LEADER) :
Comments: _____

Signature of
Supervisor : _____

Name:
Stamp:

Date:

PART C – VERIFICATION BY DEAN OF FACULTY

Comments: _____

Approve ☐   Not Approve ☐

Signature
Dean of Faculty : _____

Name:
Stamp:

Date:

PART D – APPROVAL BY RESEARCH & INNOVATION DEPARTMENT

Comments: _____

Approve ☐   Not Approve ☐

Signature
Dean of Research & Innovation Department : _____

Name:
Stamp:

Date:

PART E – SELF SPONSORED (VERIFICATION OF UMP FINANCE UNIT)

Comments: _____

Verified ☐   Not Verified ☐

Signature
Finance Officer : _____

Name:
Stamp:

Date:

PART F – REGISTRATION BY INSTITUTE OF POSTGRADUATE STUDIES
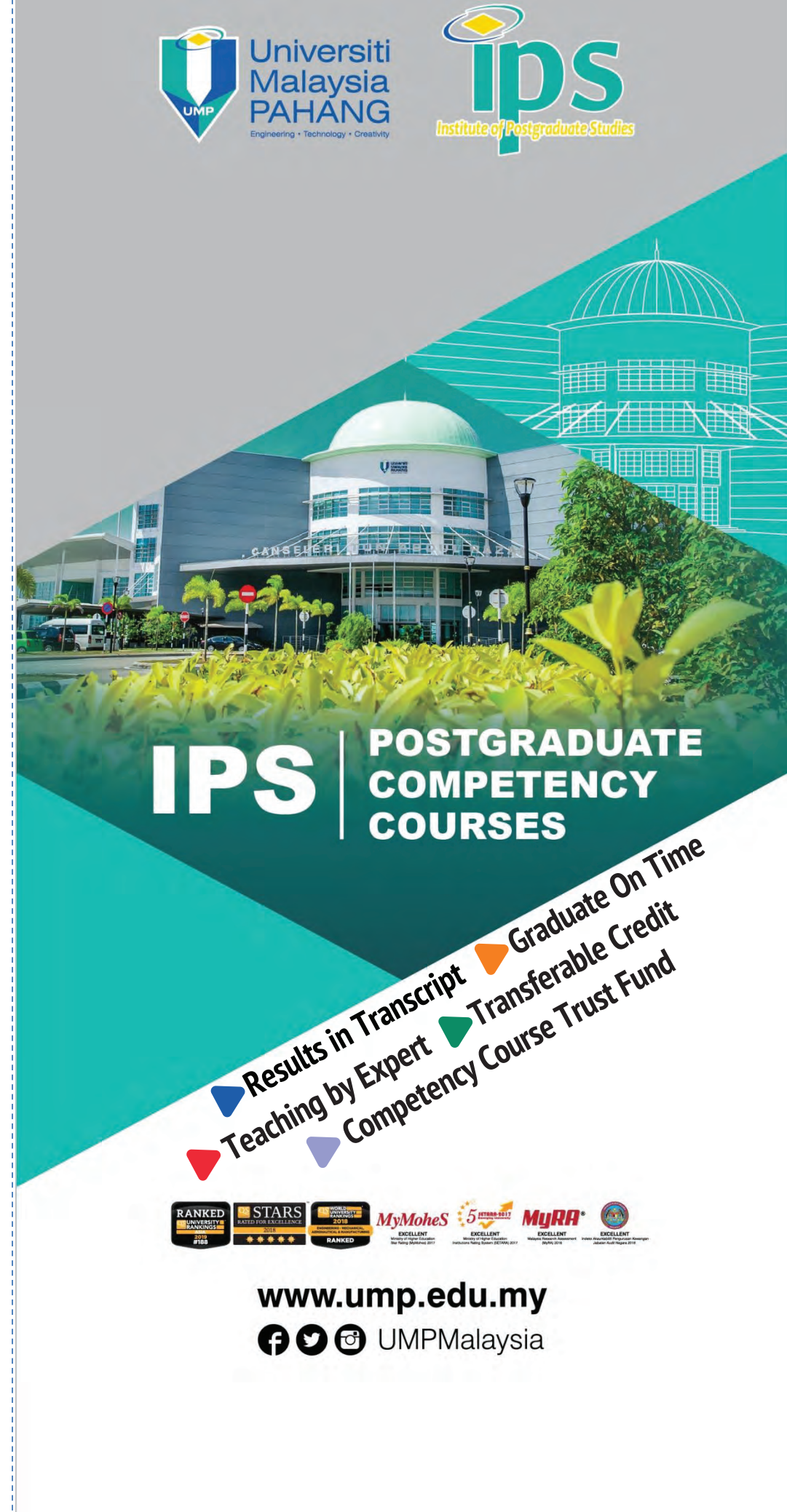
Comments: _____

Verified ☐   Not Verified ☐

Signature
Deputy Dean of Institute of Postgraduate Studies: _____

Name:
Stamp:

Date:

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IPS
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IPS | POSTGRADUATE COMPETENCY COURSES

- Results in Transcript
- Graduate On Time
- Transferable Credit
- Teaching by Expert
- Competency Course Trust Fund

RANKED UNIVERSITY RANKINGS #188   STARS RATED FOR EXCELLENCE   WORLD UNIVERSITY RANKING 2016   MyMoheS EXCELLENT   5 JUTAAN KE-5   MyRA EXCELLENT   EXCELLENT

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UMPMalaysia

INTRODUCTION

In Beginning September 2019, IPS is offering 16 Postgraduate Competency Courses for all postgraduate students to register. The Competency Courses will help to increase the knowledge and skills required for students to produce a quality thesis, dissertation or a research report. The 16 courses can be clustered into 5 categories, namely (i) Engineering Mathematics, (ii) English and Presentation Skills (iii) Statistic and Data Analysis (iv) Research Methodology and (v) Thesis Writing The courses are open to both coursework and research student. The courses are 3 credit units and will be given a grade. They are offered every semester as an elective course.

💲 FEES

Fee for each course is **RM855.00**

☂️ FUNDING SOURCES

Students can apply to Research & Innovation Department to seek for funding. However, it is subjected to the approval based on availability of fund and other requirements.

Sources of funding available are as follows:
1) PGRS (Postgraduate Research Scheme)
2) UMP RDU
3) UIC (University Industry Collaboration)
4) UMP FLAGSHIP
5) FRGS (Skim Geran Penyelidikan Fundamental)

Course Synopsis

UIM113 Advanced Numerical Methods

This course covers the numerical solutions of linear systems, nonlinear systems,ordinary differential equations (ODEs) and stochastic differential equations (SDEs). It also includes the development of cubic spline and B-spline for curve fitting. The emphasis is on learning in a practical context for students to write numerical algorithms using Matlab. The numerical algorithms will be developed through their use in applications from a wide range of practical problems such as traffic flow problems and cancer growth progression.

UIM1123 Optimization Techniques

This course covers optimization techniques, in particular, linear programming, nonlinear optimization and non-standard optimization techniques. The theory is applied to solve the industrial problems such as work scheduling, job assignment, blending problem, production planning or optimizing the provision of services. Besides manual calculations, students learn how to use available software such as LINGO and TORA to solve and analyze the respective problems.

UIM1133 Mathematical Modelling

This course discusses a variety of mathematical modelling that arise in engineering and industrial applications. It covers modelling with different kind of differential equations, namely ordinary, partial and delay. Mathematical modelling requires a diverse range of skills and tools. The student will learn how to formulate a mathematical model from a given problem, investigate the stability of the model, solve the model using numerical methods and interpret the simulation results. On top of that, students will become aware of the concepts involved in mathematical modelling, hence build a solid foundation in the subject. This course will incorporate numerous examples from physics, chemistry, biology, ecology and engineering including fluid flow, heat flow, vibrating spring and traffic flow. Also, discussion on real-life problems such as cancer immune system in medical and healthcare applications will be covered. This course would prepare students to venture forth on their own to solve problems on mathematical modelling using differential equations.

UIE1113 Preparatory English for Postgraduates

This course is designed to develop skills in using English language effectively. The language skills that will be focused on are reading, writing and speaking. Knowledge and application of grammar will be integrated in all these skills. These components are structured to strengthen learners' language proficiency at postgraduate level. This course also emphasizes on improving reading and writing by applying effective strategies which include elements of contextual grammar, extensive lexical building and syntactical enhancement. These are the fundamentals in providing essential English language skills that are needed at postgraduate level.
Note: Exit level is at CEFR B1.

UIE1123 Scientific English Communication

The course aims to further enhance learners to become independent users of the English language. The primary focus emphasizes reading and writing skills, in which the knowledge of grammar is embedded. The course requires students to read and write various scientific discourse of specific topics by incorporating analytical and critical reading and writing skills
Note: Exit level is at CEFR B2.

UIE1143 Research Project Presentation Skills

This course will equip learners with practical strategies for them to deliver their research projects effectively. The course will highlight topics on presentation anxiety, verbal, non-verbal and visual communication, and audience interaction
through Q&A session. This course will provide ample opportunities for students to present and improve on their research projects presentation skills.

UIS1113 Descriptive Statistics

This course discusses on basic statistical problem-solving methodology, graphical and numerical data analysis and confidence interval. Software will be used in this course to implement the data analysis such as Microsoft Excel (other statistical packages are SPSS, R Language, S Plus, EViews and Minitab shall be used in this course).

UIE1133 Presentation Skills

The course aims to develop learners presentation skills for various rhetoric requirements at postgraduate level. Learners will be required to undergo the processes of preparing and delivering presentations. Learners will learn how to construct a topic, gather supporting materials, organize the content, and deliver the presentations. This will also emphasize informative, persuasive and argumentative presentation skills required in postgraduate context.

UIS1123 Inferential Statistics

This course discusses on inferential statistics including hypothesis testing; analysis of variance (ANOVA); regression and correlation including simple and multiple linear regressions; goodness-of-fit test and contingency tables. Software that will be used in this course to analyse the data include Microsoft Excel (other statistical packages are SPSS, R Language, S Plus, EViews and Minitab shall be used in this course).

UIS1133 Statistical Modelling

UIS1133 Statistical Modelling In this course, the linear model is generalized in several directions, and the resulting framework is investigated from a theoretical and practical perspective, in an intention to develop core skills in statistical data analysis. The course has three parts. Part A: Model Selection including linear model and Bayesian Inference. Part B: Beyond Generalised Linear Model including Random and mixed effects models. Part C: Missing Data and Latent Variables. The R statistical package will be used throughout.

UIS1143 Structural Equation Modelling

This course is primarily focused on the applications of multivariate statistics (second generation technique) which is more advanced than linear regressions (first generation techniques). In this course, learners are exposed to latent variable modelling that are applied in many areas of field such as management, education, engineering, medical, social sciences and others. Learners are able to use the structural equation modelling (SEM) technique in solving problems that relate to their field of interest as this technique is being rigorously used in research and widely accepted in many journals.

UIR1123 Research Methodology for Social Science and Humanities

The principal aim of this course is to assist learners in the process of identifying research topics and problems, and to provide them with a logical framework in which to consider such problems, the associated methodologies and the results. Both quantitative and qualitative approaches will be emphasized in the course. Overall, this subject is intended to give an understanding and knowledge on the methodology of research and its application when conducting research projects. The topics to be covered are Introduction to Research; Research Problem, Research Questions, Reviewing the Literature; Research Designs; Sampling; Measurement; Observation; Research Instruments; Different types of Analysis; Completing the Research Project.

UIR1113 Research Methodology for Engineering, Science & Technology

This course presents an overview and general steps involved in research methodology. The topics describe the elements required in research methodology such as literature study, research design, data analysis and scientific writing to prepare students in writing research proposal, thesis and scientific publications.

UIR1133 Philosophy of Research

The philosophy of science is the consideration of the most basic concepts and principles at work in scientific inquest. What principles do all of the sciences have in common? How are the theories of different sciences (like engineering, physics, biology, and psychology, accounting, economics etc.) related? How are the scientific theories of today related to the scientific theories of yesterday and tomorrow? Conventionally, answers to these sorts of questions have been formulated on the basis of four essential assumptions about the nature of scientific inquiry: (1) scientific thinking is fundamentally rational; (2) scientific knowledge is fundamentally objective.

UIT1113 Thesis Writing 1

The course is an overview of the writing and organizational skills necessary for the completion of a thesis. It is designed to help learners master the writing of the thesis. It includes main issues involved in the construction and writing a thesis—defining the topic, formulating the research question and hypothesis, theory and methodology, seeking out sources, building a bibliography, structuring the thesis.

UIT1123 Thesis Writing 2

The main aim of this course is to provide learners with a sound technical knowledge and skills necessary to interpret data that leads to conclusive findings and quality journal papers.