

RESEARCH AND INNOVATION POLICY



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UNIVERSITY OF MALAYA

1.0 INTRODUCTION

The Research and Innovation Policy of the University of Malaya is a document that provides a framework for the development of a competitive and innovative research culture at the University of Malaya for quantitative and qualitative improvements in research performance and output as well as to become a leader in all knowledge boundaries and cutting-edge technologies.

University of Malaya is committed to maintain its leading research university status renowned internationally. The university is also committed to support all research activities to create and advance knowledge and improve the quality of life through the discovery, dissemination and use of research in various disciplines in line with the vision and mission of the University of Malaya.

2.0 OBJECTIVE

The Research and Innovation Policy University of Malaya serves as a framework for stakeholders, management, and academic staff on their roles and responsibilities in the research and innovation acculturation process at the University of Malaya. Accordingly, the objectives of this policy are to:

- (a) strengthen the performance of the University as a premier research university in Malaysia and internationally.
- (b) empower and cultivate creative and innovative research.
- (c) enhance research collaboration between disciplines and various fields locally and abroad.
- (d) intensify and reinforce cooperation and collaboration between universities, industries, and society.
- (e) boost efforts in generating revenue for the University.

3.0 SCOPE

This policy covers all processes related to the implementation and management of research, research output, scholarly activities, joint ventures (collaboration), consultation, and commercialization activities at the University of Malaya.

4.0 RESPONSIBILITY

The Vice-Chancellor and the Deputy Vice-Chancellor (Research & Innovation) are responsible for ensuring that these policies are complied with and implemented.

5.0 RELEVANT DOCUMENTS

Relevant documents are as follows:

- (a) Universities & College Universities Act 1971
- (b) Occupational Safety and Health Act 1994 (OSHA)
- (c) University of Malaya Code of Ethics for Academic Staff 1997
- (d) University of Malaya Code of Ethics 2010
- (e) Consultation Work Guidelines 3rd Edition, 2008
- (f) General Policies of Consultancy Unit University of Malaya (UPUM), 2010
- (g) Financial Manual and Guidelines UPUM 2010
- (h) UPUM Work Order
- (i) Permission to carry out consultation form
- (j) Undertaking letter for consultation work
- (k) Consultancy Services Procurement Manual (issued by the Ministry of Finance) latest version
- (l) University Intellectual Property Policy, Issue 1, 2003
- (m) Quality Management System documents
- (n) Financial Management Guidelines to the Centre of Responsibility (CoR)/Department

6.0 GLOSSARY

6.1 Terms and Definitions

- (a) **Research** can be broadly defined as a systematic and disciplined activity undertaken to create and advance knowledge. It involves various forms across disciplines including scientific and social research findings, the creation or refinement of concepts and theories, techniques or compositions, or the extension of current understanding through critical analysis. The common features of research include a systematic and disciplined methodology, a commitment to publish the results of the findings and their peer review. The publication element of research also varies according to discipline and may include publication of results in journals or monographs or books to the performance of creative compositions.
- (b) **Researcher** refers to staff or students who conduct research.
- (c) **Staff** refers to any person appointed by the University under the University Constitution or any other Statutes, including academic staff, officers, teachers, research fellows, or employees of the university.
- (d) **Student** refers to a registered student at the university.
- (e) **University** refers to the University of Malaya.

- (f) **University of Malaya Code of Ethics for Academic Staff** refers to the University of Malaya code of ethics for academic staff.
- (g) **Consultation** refers to an activity involving a person or a group of people to provide expert services or skills with or without payment.
- (h) **Consultant** refers to all UM academic staff engaged in consultation work.
- (i) **Commercialisation** refers to the conversion of ideas into products, services, processes, or organised systems that can be marketed through licensing, sales, *spin-off*, or joint venture companies.
- (j) **Innovation** refers to the creation and implementation of either forms of processes, products, services or new ways of delivery that can provide a significant improvement on results, efficiency, effectiveness or quality.
- (k) **Intellectual Property** refers to any intellectual property protected by the laws of Malaysia that includes the findings that can be patented, *knowhow*, Copyright, Design, Design of Integrated Circuits and Trademarks.

6.2 Abbreviation

CITRA	Centre for Industrial Training & Relations
FRGS	Fundamental Research Grant Scheme
HICoE	Centre of Excellence in Higher Education
IPPP	Institute of Research Management & Monitoring
PJM	Centre for Community Networking
PTj	Center of Responsibility (CoR)
TNC (P&I)	Deputy Vice-Chancellor (Research & Innovation)
UMCIC	University of Malaya Centre of Innovation and Commercialization
UMMIS	University of Malaya Management Information System
UMRG	University of Malaya Research Grant
UPUM	University of Malaya Consultancy Unit
USPI	Scholarly Publication Support Unit

7.0 POLICY STATEMENT

In line with the vision of the University of Malaya to become a leading institution of higher learning at the international level in research, innovation, publication and teaching, the University must take a strong approach to develop a culture of competitive research and innovation among staff and students in order to improve the quality of life.

7.1 The Need to Conduct Research

In an effort to achieve the set vision, the University undertakes the following approach:

- (a) All academic staff must conduct research and scholarly activities as well as to publish the outcome or patent their product.
- (b) All researchers are eligible to apply for research funds to finance their research.
- (c) Conducting research is essential in the career development of staff as well as undertaking academic and administrative responsibilities.
- (d) This policy cannot be used as an excuse for the Head of the CoR to exclude staff under his/her jurisdiction from teaching or carrying out other academic responsibilities without the approval of the Vice-Chancellor.

7.2 Implementation strategies of the Research and Innovation Policy

To develop a competitive and an innovative culture of research among staff and students, the University adopted the approach based on strategies as stated in the Terms of Reference Implementation Strategies for Research and Innovation Policy (Appendix 1).

7.3 Exposure and the Internationalization of Research

The internationalization of research is necessary in order to strengthen the development of competitive and innovative research culture among staff and students. The exposure and the internationalization of research are necessary for the following purposes:

- (a) To increase research excellence and innovation potential through greater access to external sources of knowledge
- (b) To develop a global collaboration and innovation network that can promote and utilize new knowledge and technologies
- (c) To enhance the global competitiveness of the research conducted at universities
- (d) To compete for international research funds
- (e) To expose local staff and students to research culture in developed nations
- (f) To attract excellent foreign students to conduct research at the university to promote interaction between cultures.

The internationalization of research will be implemented by organizing and participating in more international seminars and conferences, presenting research papers, generate project papers published in high impact journals or international papers and research through international collaboration.

7.4 Research Findings (Output) and Performance Indicators

Research output and performance indicators for the research include publications, intellectual property rights, research reports, research funds, supervision and other details as stated in Appendix 2.

7.5 Research Ethics

Staff and students of the university who conduct research must have high ethical standards in accordance with the guidelines stipulated in the "University of Malaya Code of Ethics for Academic Staff 1997" and the University of Malaya Code of Ethics 2010. The Research Ethics Guidelines quoted from the University of Malaya Code of Ethics 2010 is provided in Appendix 3.

7.6 Intellectual Property Rights

Intellectual property rights are the rights protected by specific laws that allow the owner of the Intellectual Property to exercise exclusive control over the exploitation of such rights usually associated with commercial gains. The methods practised by the University are as outlined in the UM Intellectual Property Policy.

7.7 Synergy in Teaching and Research

In an effort to elevate postgraduate degree programs and research to an international level, appropriate strategies need to be designed to enable students to undertake part of the research programs abroad and financed from the University Research Fund to attend conferences, workshops, or seminars. In line with the concept of internationalization of the University, it should encourage researchers and foreign students to take part in postgraduate research programs.

7.8 Management of Research by the University

The management of research by the university ensures that the University of Malaya remains as a premier research university in Malaysia. The Management consists of:

- (a) University Malaya Research Council
- (b) Research University Provisions Committee University Malaya
- (c) Management & Research Monitoring Institute

(d) Research Cluster

Other units under the purview of the Deputy Vice-Chancellor (Research and Innovation) which have a role in supporting this policy include UMCIC, UPUM, PJM, CITRA, USPI, HICoE and research-related units established or modified from time to time.

7.9 Centre of Excellence for Research University of Malaya

The establishment of research centers and institutes will be intensified in an effort to raise the research profile of the university that will focus on existing strengths in the field (or in developing research areas determined by the university) wherein the university has expertise in these areas.

This will assist and promote research excellence in the university that in turn will improve the performance and reputation of the university.

Research Centers of Excellence will also serve as a platform for binding relationships between universities and other research institutions and industries and promote inter and multidisciplinary relationships. The attributes of the Centre of Excellence for Research and Institute:

- (a) are consistent with the strategic interests of the university
- (b) support university research policies and strategies
- (c) are in accordance with the priorities of funding agencies and competitive
- (d) portray the performance of high-quality research (UMMIS)
- (e) reflect the financial sustainability in research and finance
- (f) have been approved by the Senate and Board of Directors of University of Malaya

7.10 Higher Education Centre of Excellence (HICoE)

HICoE to be ranked according to the following three (3) thrusts:

- (a) Research and Innovation Thrust
- (b) Teaching and Learning Thrust
- (c) Service Thrust

HICoE Evaluation Criteria based on Research and Innovation Thrust is as follows:

Criteria	Percent (%)
A. Quality and Quantity of Researcher	25
B. Quality and Quantity of Research	25
C. Quality and Quantity of Postgraduates	15
D. Innovation	10
E. Professional Services and Gifts	5
F. Network and Reach	15
G. Support Facilities	5
TOTAL	100

8.0 VERSION

The first version has been approved by Senate in its meeting on 28 July 2011.

9.0 APPENDICES

- (a) Terms of Reference Related to the Implementation of the Research and Innovation Policy Strategies (Appendix 1)
- (b) Research Findings (Output) and Performance Indicators (Appendix 2)
- (c) University of Malaya Ethical Guidelines for Research (Appendix 3)

TERMS OF REFERENCE RELATED TO THE IMPLEMENTATION OF THE RESEARCH AND INNOVATION POLICY STRATEGIES

1. RESEARCH AND INNOVATION ASPECT

Research and innovation strategies are to:

- (a) provide and manage a conducive research environment moving towards a multi and interdisciplinary research.
- (b) provide, and maintain infrastructure and basic facilities for research at all times.
- (c) approve the appointment of academic staff that have track records of excellent research and publications in and outside the country.
- (d) provide incentives and research facilities to academic staff to conduct research in and outside the country.
- (e) provide adequate and trained human resources to promote research activities.
- (f) encourage staff to participate in research groups for sustainability and optimal use of resources.
- (g) negotiate with the Responsibility Centre (PTj) to identify research strengths to expand the field.
- (h) identify and support the development of expertise in 'niche areas' and exploring new frontiers to maintain the research strengths and interests of the country.
- (i) invite competent researchers (research icon) including foreign researchers to conduct research at the University.
- (j) establish research centers as dynamic catalysts for research development and ensuring staff membership in any of the research centers.
- (k) appoint external assessors to evaluate the progress and outputs of research programs of university staff.
- (l) network with the public and industry for research and innovation purposes.
- (m) develop strategies to increase the number of articles published in high impact journals.
- (n) implement an appropriate reward system to encourage excellence in research.

2. COMMERCIALISATION/CONSULTATION AND INDUSTRIAL NETWORK ASPECT

Strategies in the commercialisation/consultation and industrial network aspect are to:

- (a) encourage staff to improve international relations such as undertaking their sabbaticals abroad.
- (b) commercialize research discoveries and technology developed at the University.
- (c) organize a workshop/seminar/conference that aims to expose the university staff to aspects linked to negotiations, commercialization, intellectual property, and technology transfer.
- (d) promote interaction with industry and professional bodies.
- (e) create strategic plans aimed at strengthening consultation services to various government departments, industry and professional bodies.
- (f) network with the public and industry for consultation and commercialization purposes.
- (g) promote collaboration among universities in technology transfer, academic and training programs and related matters.
- (h) support efforts to promote research activities through consultation.
- (i) encourage the application of research findings into policies, industries and society as one of the social responsibilities of the University.
- (j) give recognition to staff who can generate income for the University.
- (k) identify and strengthen expertise in niche areas as the University has expertise in various fields.
- (l) encourage experienced consultants to maintain the development of new lecturers to ensure the continuation and strengthening of expertise.
- (m) work with private companies to complement their expertise to handle the needs of a multi-disciplinary project as required by the client.

RESEARCH FINDINGS (OUTPUT) AND PERFORMANCE INDICATORS

1. Refereed publications in journals, monographs, books (original works), chapters in books and proceedings.
2. Intellectual property rights and documentation in the form of patents, certificates of copyright (copyright), industrial design, etc.
3. Papers presented at conferences, seminars and workshops at the university level, nationally and internationally.
4. Original creative works such as documentaries, musical scores, artistic performances, videos, etc.
5. Research reports that contribute to improved policy framework for government or institutional management strategies.
6. Recognition received for the research findings (output).
7. Research funds from public sources, private and overseas acquired in accordance with the current target.
8. Recognition of research expertise such as the appointment as a journal editor, an external examiner, a panel of experts and consultants.
9. Supervision of postgraduate students until graduation.
10. Research and the research findings (output) that gets media coverage.
11. Patented or commercialized research product/idea.
12. Application of research findings (output) in national development.
13. Research reports/consultancy projects satisfy the terms of reference and approved by the client.
14. Other relevant matters.

UNIVERSITY OF MALAYA ETHICAL GUIDELINES FOR RESEARCH

1. INTRODUCTION

- 1.1 The undertaking of a research activity is one of the main concerns among academicians in any university. It is an obligatory activity of an academic so as to ensure that lessons delivered to students are always up-to-date in theory, methods and facts.
- 1.2 Research is an investigation that is planned using appropriate methodologies executed with patience. Expertise is essential to research a new idea to develop a theory, inference, planning or forecasting.
- 1.3 Research is also about the exploration of new knowledge and the findings can be shared with other academicians towards a more progressive nation and social harmony.

2. GENERAL DEFINITIONS

- 2.1 Ethics are the principles of good conduct known also as a moral principle based on the value that is accepted in a civilization.
- 2.2 In the context of research at the university environment, ethical conduct is known as good behavior that should be adhered to based on the value system of the university that rejects bad behavior especially in the daily life of an academic and researcher.

3. RESEARCH ETHICS

In this guideline, research ethics is the ethical aspects of research, publication, conference, and consultation.

3.1 Research Aspect

The staff should:

- (a) Be honest and sincere in terms of research objectives and plans.
- (b) Be honest in collecting data, i.e. the data is not manipulated or fabricated.
- (c) Be honest in the planning of research expenditure.
- (d) Be honest in the use of research funding and does not use it for other purposes such as for vacation or buying things that have nothing to do with research.
- (e) Be honest in the submission to the University of the funds received if there is more than one fund.

- (f) Be honest in relation to compliance with the terms of the agreement that is provided by certain donors.
- (g) Comply with Special Ethical Codes in relation to certain professions, such as education, medicine, engineering and others that cover confidentiality and safety in the workplace.
- (h) Be respectful to the informants or subjects, or even to the guardian of the subject (if the subject is a child) and also to inform truthfully of the purpose of the study and its process.
- (i) Ensure that the projects are not identical or very similar to the project being undertaken by other colleagues, because the act is seen as a betrayal of that particular friend.
- (j) To make the project using University funds or funds provided by the University as a University project and not as a personal project.
- (k) Return equipment purchased for a project using University funds or funds provided by the University to the relevant Centre of Responsibility (CoR) after completion of the project and do not make it as personal property.
- (l) Not to sell or commercialize, manuscripts or research products without the permission of the University.
- (m) Not allowed to use research assistants who are hired for a particular research project to carry out other projects.
- (n) Not to treat field research as a holiday.
- (o) Comply with the regulations relating to research activities appointed by the University from time to time.

3.2 Publishing Aspect

When publishing, the author should:

- (a) speak the truth in terms of written material, not fabricated or manipulated in terms of data and findings.
- (b) write ethically in academic writing research by stating the research methodology, theory and data analysis method.
- (c) accord appropriate reference and recognition to previous research and publication, and to those who have given any forms of contribution to the success of the research.
- (d) avoid plagiarism.

- (e) avert misplaced self-praising attitude.
- (f) respect the confidentiality of those who provide information by not disclosing the name of individuals or institutions involved, if requested by them.

3.2.1 Plagiarism

Plagiarism is an academic fraud arising from the attitude of lying, being dishonest, insincere, untrustworthy, and does not respect fellow colleagues. Plagiarism occurs when the ideas of others are taken without naming its source, and thus gives the impression that the idea was his own idea. This situation can occur when:

- (i) a person's idea is taken verbatim from articles or books already published.
- (ii) a person's idea taken from articles or books using their own words.
- (iii) a person's idea is taken from the discussion of whether in conferences, seminars, forums, lectures or informal talks between the two parties.
- (iv) the data, diagrams, tables, photographs or illustrations of any material that comes from other people taken as if belonging to themselves.

3.3 Conference Aspect

In carrying out this activity, the staff should:

- (a) be honest in the application and be objective in attending the conference.
- (b) be honest in the preparation of budgets and make claims to attend the conference.
- (c) submit evidence that the abstracts and papers have been accepted for presentation at the conference.
- (d) obtain the consent of the university and the government before leaving for the conference should it be held outside the country.
- (e) proceed to the conference destination, and not go elsewhere.
- (f) present the paper as scheduled, and not withdraw without an acceptable reason.
- (g) attend the conference full-time, not just one or two sessions only.
- (h) maintain the good name of self, of the university and the country while abroad.
- (i) ensure that conference papers are presented in prestigious academic conferences.
- (j) share the knowledge gained from conferences with colleagues and students through discussions, presentations in seminars and providing reports and so on.

3.4 Consultation Aspect

In consultation, the staff should:

- (a) obtain the permission of the University and comply with the regulations that have been set, before carrying out consultancy work.
- (b) ensure that the consultancy work does not interfere with other duties at the University.
- (c) inform the University, the income earned from consultancy work and submit it to the decision of the University to take or not part of that income.
- (d) strive for consultancy work on their own expertise or expertise with colleagues.