



BERILMU BERBAKTI
WITH KNOWLEDGE WE SERVE

CODE OF PRACTICE FOR PROGRAMME (BY RESEARCH) ACCREDITATION



School of Graduate Studies

PART B: INFORMATION ON THE NINE AREAS OF EVALUATION FOR QUALITY ASSURANCE

AREA 1: VISION, MISSION, EDUCATION GOALS AND LEARNING OUTCOMES

1.1 Statement of Programme Aims, Objectives and Learning Outcomes

A programme's stated aims, objectives and learning outcomes stipulate what candidates of the programme are expected to achieve. It is crucial for these aims, objectives and learning outcomes to be expressed explicitly and to be made known to the candidates as well as to the internal and external stakeholders.

1.1.1		Benchmarked Standards
No	Details	Answer
1.1.1 (i)	The programme must define its aims, objectives and learning outcomes and identify its internal and external stakeholders.	<p>The aim of this programme is to produce knowledgeable and competent graduates through research in the relevant fields to meet the local and global needs.</p> <p>The graduates from this programme are able to:</p> <ul style="list-style-type: none"> • Synthesise knowledge and contribute to original research that broadens the frontier of knowledge; • Adapt practical skills leading to innovative ideas in the relevant field; • Generate solutions to problems using scientific and critical thinking skills; • Demonstrate leadership qualities through communicating and working effectively with peers and stakeholders; • Relate ideas to societal issues in the relevant field; and • Conduct research with minimal supervision and adhere to legal, ethical and professional codes of practice; • Manage information for lifelong learning <p><i>*Note: Major stakeholders include the public and private sectors, and NGOs.</i></p>

1.1.1 (ii)	The department must consult and discuss with relevant internal and external stakeholders when formulating programme aims and objectives.	The programme takes into consideration the needs of internal and external stakeholders. <i>*Note: The needs of stakeholders are obtained from government policies, industrial networks, consultations with local and international stakeholders.</i>
1.1.1 (iii)	The programme objectives must reflect the key elements of the outcomes of higher education that are in line with national and international practices.	This programme reflects the key elements of the outcomes of higher education, such as: <ul style="list-style-type: none"> • Synthesising knowledge in the relevant fields; • Adapting practical skills leading towards innovative ideas in the relevant fields; • Conducting research independently and adhering to the legal, ethical and professional code of practice in the relevant fields; • Communicating and working effectively with peers, scholarly communities and stakeholders, while displaying leadership qualities; • Appraising problems in the relevant fields critically using scientific skills; and • Integrating information to develop lifelong learning in the relevant fields that are in line with national and international practices.
1.1.1 (iv)	The programme aims, objectives and learning outcomes must be consistent with and supportive of the HEP's vision and mission.	The aims, objectives and learning outcomes of this programme are in line with the vision and mission of Universiti Putra Malaysia.
1.1.1 (v)	The programme aims, objectives and learning outcomes must encompass provision for training or support to enable research candidates to acquire skills in problem identification, analytical problem solving and publication of research outcomes.	The Faculties/Institutes conduct courses relevant to each field of Study and skills in research, thesis writing and publication. In addition, Universiti Putra Malaysia provides learning support programmes to students at both university and faculty levels. (Examples: Putra Sarjana, paper writing workshops, graduate courses and seminars).

No	Details	Answer
1.1.1 (vi)	The aims, objectives and learning outcomes of the master's programme, including the industry master's programme, must encompass research and research training skills in addressing problems of concern.	The programme encompasses training students in research skills to address problems of concern through frequent discussions with supervisory committee members, participation in seminars, trainings and workshops at local and international levels. (Examples: handling laboratory animals, equipment, and questionnaire preparation).
1.1.1 (vii)	The aims, objectives and learning outcomes of the doctoral programme must encompass knowledge creation, novelty and innovation.	The outcomes of this programme encompass knowledge creation, novelty and innovation through local and international publications, patents, trademarks, industrial designs, copyrights and geographical indication.

1.1.2		Enhanced Standards
No	Details	Answer
1.1.2 (i)	The internal and external stakeholders should include national and international researchers.	This programme includes national and international researchers through joint supervisions, joint research projects, dual degree programmes, appointments of visiting professors and researchers, external examiners for theses, and involvement of internal and external funding bodies.
1.1.2 (ii)	The programme's aims, objectives and learning outcomes should be periodically reviewed in consultation with internal and external stakeholders, including international peers.	This programme is reviewed based on new developments in the fields of study as and when necessary.

1.2 Learning Outcomes

The quality of the research programme is ultimately assessed by the capability of the candidates to carry out their expected roles and responsibilities in society. This requires the programme to have clear statements of the learning outcomes to be achieved. These statements should cumulatively reflect the seven MQF domains of learning outcomes: Knowledge of Discipline Areas; Practical Skills; Social Skills and Responsibilities; Values, Attitudes and Professionalism; Communication, Leadership and Team Skills; Problem Solving and Scientific Skills; and Information Management and Lifelong Learning Skills.

1.2.1	Benchmarked Standards	
No	Details	Answer
1.2.1 (i)	The scope of learning outcomes must reflect the competencies that the candidates should have upon completion of the programme:	
	<p><u>Master's Degree by Research</u></p> <p>At the end of the programme, graduates must be able to:</p> <ol style="list-style-type: none"> <li>1. demonstrate mastery of knowledge in the relevant fields; <li>2. apply practical skills in the relevant fields; <li>3. relate ideas to societal issues in the relevant fields; <li>4. conduct research with minimal supervision and adhere to legal, ethical and professional codes of practice; <li>5. demonstrate leadership qualities through communicating and working effectively with peers and stakeholders; <li>6. generate solutions to problems using scientific and critical thinking skills; and <li>7. manage information for lifelong learning. 	<p>A candidate's competencies are demonstrated by the candidate's ability in:</p> <ul style="list-style-type: none"> <li>• producing a critical review in the relevant fields; <li>• designing and handling research instruments, conducting sampling and data analyses, preparing questionnaires and surveys; <li>• formulating clear and relevant problem statements; <li>• carrying out sampling and analyses independently after the approval of the university's ethics committee when necessary; <li>• organising seminars, workshops, tutorials, and assisting in teaching activities; <li>• using proper scientific methods, such as statistical analysis and modeling, with appropriate inferences and conclusions; <li>• disseminating knowledge through publications and involvement in social work.

No	Details	Answer
	<p><u>Doctoral Degree by Research</u> At the end of the programme, graduates must be able to:</p> <ol style="list-style-type: none"> 1. synthesise knowledge and contribute to original research that broadens the frontier of knowledge in the relevant field; 2. adapt practical skills leading to innovative ideas in the relevant field; 3. provide expert advice to society in the relevant field 4. conduct research independently and adhere to legal, ethical and professional codes of practice 5. display leadership qualities through communicating and working effectively with peers and stakeholders 6. appraise problems in the relevant field critically using scientific skills; and 7. integrate information for lifelong learning <p>**Note: For the industrial doctoral programme," in the relevant field" should be read as "in the relevant industry."</p>	<p>A candidate's competencies are demonstrated by the candidate's ability in:</p> <ul style="list-style-type: none"> • synthesising knowledge, producing intellectual properties (IPs), identifying the gap in the current state of knowledge, and determining future direction in furthering the knowledge in the relevant fields; <p><i>*Note: The tangible outputs are theses, patents, IPs, copyrights, etc.</i></p> <ul style="list-style-type: none"> • designing and handling research instruments, conducting sampling and data analyses, preparing questionnaires and surveys; • becoming an expert panelist or a consultant, and producing articles and giving talks in the mass media in the relevant fields; • carrying out sampling and analyses independently after the approval of the university's ethics committee when necessary; • organising seminars, workshops, tutorials, and assisting in teaching activities; • using proper scientific methods, such as statistical analysis and modeling, with appropriate inferences and conclusions; • disseminating knowledge through publications and involvement in social work.orks <p><i>*Note: For the industry doctoral programme, in the relevant fields" should be read as "in the relevant industries."</i></p>
1.2.1 (ii)	The programme must demonstrate how the defined research components	Basically, the fulfillment of the learning outcomes is reflected in the theses, results of theses examinations and dissemination of

	contribute to the fulfillment of the programme's learning outcomes.	knowledge through publications, seminars and workshops.
1.2.1 (iii)	The attainment of the learning outcomes must be continuously assessed throughout the programme.	The attainment of the learning outcomes is continuously assessed through submission of progress reports (GS11), supervisory committee meetings and results of comprehensive examinations.

1.2.2 Enhanced Standards		
No	Details	Answer
1.2.2 (i)	At the end of the programme, graduates should be able to publish in peer reviewed publications.	The students are required to submit and publish articles in CIJs or file patents. This is as stipulated in the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13).
1.2.2 (ii)	The programme should specify the link between research competencies expected on completion of studies and those required for career enhancement and future research.	The link between research competencies upon completion of studies and those required for career enhancement and future research is established through alumni associations, research and industrial networks, seminars and conferences.

AREA 2: PROGRAMME DESIGN AND DELIVERY

For the purpose of these standards in the accreditation of programmes offered by the HEP, the term "Programme" refers to research that is structured for a specified duration of time and amount of learning. This is required to attain the stated learning outcomes for the award of a master's or doctoral degree by research.

2.1	Academic Autonomy		
<p>An academic institution is expected to have sufficient autonomy over academic matters. Such autonomy should be reflected at the departmental level where the programme is being offered.</p> <p>Recommended nomenclature of postgraduate degrees awarded is as shown in Table 1.</p>			
Table 1: Nomenclature of Postgraduate Degrees Awarded			
Qualification	Mode		
	Research	Mixed Mode	Coursework
Master	MPhil	MPhil	Master's degree according to field of specialisation
Doctorate	PhD or Professional Doctorate	PhD	Doctoral degree according to field of specialisation e.g. : DBA, DEd, DEng
Post Doctorate	DSc, DengSc	Not applicable	Not applicable
Table 1(a): Nomenclature of Postgraduate Degrees Awarded by UPM			
Qualification	Mode		
	Research	Mixed Mode	Coursework
Master	MA, MS, MAgricSc, MVSc	-	Master's degree according to field of specialisation
Doctorate	PhD or PhD (Industry) e.g.: DEng, DrPH	-	-
Post Doctorate	DSc, DEngSc	Not applicable	Not applicable
2.1.1	Benchmarked Standards		
NO	DETAILS	ANSWER	
2.1.1 (i)	The department must have sufficient autonomy to design the programme structure and to allocate the resources necessary for its implementation, so as to ensure the attainment of the learning outcomes. Where applicable, the provision must also cover programmes conducted on	The structure of the programme is initiated and designed by the respective faculties, and the provision for sufficient resources such as academic and support staff, facilities, space and financial support is provided by the University. This covers both the main and branch campuses.	

NO	DETAILS	ANSWER
	campuses that are geographically separated.	
2.1.1 (ii)	The academic staff must be given sufficient autonomy to focus on areas of his/her expertise, such as academic supervision of candidates, research and writing, scholarly activities, academically-related administrative duties, and community engagement.	The academic staff is given sufficient autonomy to focus on areas of his/her expertise, such as academic supervision of candidates, research and writing, scholarly activities, academically-related administrative duties, such as deans, deputy deans, heads of departments and programme coordinators. The academic staff is also encouraged to engage in community activities.
2.1.1 (iii)	The HEP must have clearly-stated rules and regulations on conflict of interest, particularly in the areas of appointment of supervisors and examiners, to ensure that candidates' best interests are addressed.	The University is guided by the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) in the appointment of supervisors and examiners: <ul style="list-style-type: none"> • Clause 34 (iv) states that members of a Supervisory Committee shall not in any manner be personally related to each other or to the student under their supervision. • Clause 51 (iv-vi) Final Examination in Programmes with Thesis : <ol style="list-style-type: none"> (i) The internal examiner must be an academic staff of the University but he must not be a member of the Supervisory Committee. (ii) The external examiner is an independent examiner who must not be a member of the University. He also must not be a member of the Supervisory Committee. (iii) Members of the Thesis Examination Committee shall not in any manner be personally related to each other, to the Supervisory Committee or to the student who is being examined.

NO	DETAILS	ANSWER
2.1.1 (iv)	The HEP must have clearly-stated policies on intellectual property.	The University develops and implements the NON-DISCLOSURE AGREEMENT on Intellectual Property http://www.sgs.upm.edu.my/images/pdffiles/thesis/non_disclosure_agreement.pdf

2.1.2	Enhanced Standards	
NO	DETAILS	ANSWER
2.1.2 (i)	The HEP should have clearly-stated policies on conflict of interest, such as in the areas of private practice, part time employment and consultancy services.	The University is guided by the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) in Clause 25 (i (a-c)) Residential Requirement.
2.1.2 (ii)	The HEP should have a policy on academic autonomy for the department and the academic staff, reflecting the intellectual maturity of the HEP.	New programmes are developed in the fields of study as and when necessary in line with Sistem Pengurusan Kualiti (QMS) MS ISO 9001:2008 UPM.
2.1.2 (iii)	The HEP should have clearly-stated policies on indemnity insurance.	Policy from MoHE international student) Local Student

2.2 Programme Design and Supervision

2.2.1		Benchmarked Standards
NO	DETAILS	ANSWER
2.2.1 (i)	The department must have a defined process by which the programme structure is established, reviewed and evaluated with the involvement of the academic staff and stakeholders.	Programmes are developed, reviewed and evaluated as and when necessary in line with Sistem Pengurusan Kualiti (QMS) MS ISO 9001:2008 UPM.
2.2.1 (ii)	The programme must be considered after the resources and/or access to resources to support the programme have been identified.	The programme is considered after the resources and/or access to resources to support the programme have been identified, in line with Sistem Pengurusan Kualiti (QMS) MS ISO 9001:2008 UPM.
2.2.1 (iii)	The programme structure and supervision must support the attainment of the programme learning outcomes.	The programme learning outcomes are attained by frequent discussions with supervisory committee members, participation in seminars, trainings and workshops at local and international levels.
2.2.1 (iv)	There must be a variety of academic activities to attain the learning outcomes and to ensure that candidates take responsibility for their own learning.	The programme consists of laboratory and field activities, oral and seminar presentations, progressive reporting of research work, trainings and workshops and preparation of manuscripts for publication.

2.2.2		Enhanced Standards
NO	DETAILS	ANSWER
2.2.2 (i)	The programme structure should encourage multi-disciplinary approaches through a variety of activities to enhance the personal and professional development of the candidate.	This programme includes national and international researchers through joint supervisions, joint research projects, dual degree programmes, appointments of visiting professors and researchers, external examiners for theses, and internal and external funding bodies. The University encourages multi-disciplinary activities, such as student research attachment in local industries, as well as both local and international institutions of higher learning.
2.2.2 (ii)	The needs analysis for the programme should involve feedback from external sources including stakeholders, whose comments should be considered for the purposes of programme improvement.	All programmes are reviewed every five years and market surveys are carried out by and presented to the respective Faculties and University Graduate Studies Committee. Fields of study for research programmes are reviewed continuously.
2.2.2 (iii)	There should be community engagement activities that will enrich candidates' experiences and foster their personal and professional development.	Academic staff is also encouraged to engage in community activities, such as knowledge transfer programmes to elevate the income of rural communities, provide agriculture extension services, and awareness programmes.
2.2.2 (iv)	There should be collaborative participation with national and international HEPs and/or research centres (for example, through joint supervision, candidate exchange, joint degrees and split programmes).	This programme includes national and international researchers through joint supervisions, joint research projects, dual degree programmes, appointments of visiting professors and researchers, external examiners for theses, and internal and external funding bodies. The University encourages multi-disciplinary activities such as student research attachment in local industries, as well as both local and international institutions of higher learning.
2.2.2 (v)	There should be provision of group supervision in order to manage and minimise risk.	The University is guided by the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) in Clause 35 (i –iii) Appointment of Supervisory Committee.

2.3 Programme Structure

The supervision environment can only be effective if the programme structure is continually kept up-to-date with current developments in the fields of study.

2.3.1		Benchmarked Standards
NO	DETAILS	ANSWER
2.3.1 (i)	The programme must satisfy the following requirements:	Students registered for a Master's Degree by Research must fulfill Clause 9 Duration of Study, Clause 24 Course Registration and Clause 25 Residential Requirement as stated in the Universities And University Colleges Act 1971, Constitution of Universiti Putra Malaysia Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13). The students are enrolled in SPS5999 (Master's Research) every semester and SPS 5903 (Seminar Proposal) by the second semester. Research methodology is covered in SPS 5903 (Seminar Proposal) course. Students in some faculties are required to register for research methodology courses at their respective Faculties. In addition, the Putra Sarjana Programme includes workshops and seminars on Research Methodology. Information on the format of thesis is provided by the SGS Guide to Thesis Preparation.
	<u>Master's Degree by Research</u>	
	1. For fulltime candidature, the minimum period is one year, whereas for part time candidature, the minimum period is two years.	
	2. Candidates must have followed a research methodology course.	
	3. The following requirements must be decided by the HEP: a. Relevant prerequisite courses b. Maximum period of candidature c. Format of the dissertation	

2.3.1	Benchmarked Standards	
NO	DETAILS	ANSWER
	<p><u>Doctoral Degree by Research</u></p> <ol style="list-style-type: none"> 1. For fulltime candidature, the minimum period is two years, whereas for part time candidature, the minimum period is three years. 2. Candidates must have followed a research methodology course. 3. The following requirements must be decided by the HEP: <ol style="list-style-type: none"> a. Relevant prerequisite courses b. Maximum period of candidature c. Format of the thesis 	<p>Students registered for PhD must fulfill Clause 9 Duration of Study, Clause 24 Course Registration and Clause 25 Residential Requirement as stated in the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13). The students are enrolled in SPS6999 (Doctoral Research) every semester and SPS6903 (Seminar Proposal) by the second semester. Research methodology is covered in SPS6903 (Seminar Proposal) course. Students in some faculties are required to register for research methodology courses at their respective Faculties . In addition, the Putra Sarjana Programme includes workshops and seminars on Research Methodology. Information on the format of thesis is provided by the SGS Guide to Thesis Preparation.</p>
2.3.1 (ii)	<p>The programme must incorporate the appropriate research skills essential for understanding of the concepts, principles and methods that support the programme outcomes.</p>	<p>Candidates are required to follow strictly research courses as recommended by their supervisory committees.</p>
2.3.1 (iii)	<p>The programme must be periodically reviewed to keep abreast with knowledge developments in the discipline, and with the needs of the society.</p>	<p>The programme is periodically reviewed to keep abreast with knowledge developments in the discipline, and with the needs of the society in line with Sistem Pengurusan Kualiti (QMS) MS ISO 9001:2008 UPM.</p>

NO	DETAILS	ANSWER
2.3.1 (iv)	The department must provide the technology and global networking for candidates to access real-time information and identify areas of importance.	The university provides state-of-the-art ICT facilities, such as online registration, iGIMS Portal, wireless internet access, and online library facilities.
2.3.1 (v)	<p>For PhD by published work, the programme structure must meet the following requirements:</p> <ol style="list-style-type: none"> 1. The minimum duration of candidature is six months and must not exceed two years. 2. A supervisor must be appointed to: <ol style="list-style-type: none"> a. Guide the candidate in choosing the published work for submission b. Guide the candidate in preparing a thesis coherent with the theme of specialisation 	PhD by published work is not practised by UPM.

NO	DETAILS	ANSWER
	<p>3. Thesis requirements:</p> <ol style="list-style-type: none"> a. Published work must encompass high impact factor journals, monographs, books, research-based chapters in books, high impact and high quality electronic publications, creative works, artifacts in the field. b. The articles must be published within a period not exceeding ten years from the date of submission. c. For the five nominated publications, the candidate must be the principal author. d. The thesis must contain: <ol style="list-style-type: none"> 1. a list of scholarly published works; 2. Acknowledgement of co-authors and verification of originality. Each published work must begin with a clear statement about the contribution made by each author in any joint published work; 3. A summary of the major findings of each of the published works. It should explain how the work is integrated into one coherent intellectual framework, and how, when taken together, it contributes to knowledge in the relevant field; and 4. An introductory chapter, literature review, research methodology (where applicable), discussion and conclusion which explains the significance of the contributions. 	

2.3.2		Enhanced Standards
NO	DETAILS	ANSWER
2.3.2 (i)	The programme should fulfill the requirements of the discipline, taking into account the appropriate discipline standards and best practices.	Research involving use of human tissues or subjects have to be approved by a human ethics committee and those involving animals will need to be approved by the Animal Ethics Committee. For research using genetically modified organisms, approval will also need to be sought. Details are with Research Management Centre.
2.3.2 (ii)	HEPs should identify niche areas of research and research strengths.	The UPM Research Management Centre has information on niche areas of research and research strengths of each Faculty and Institute.

2.4 Programme Management

2.4.1		
Benchmarked Standards		
NO	DETAILS	ANSWER
2.4.1 (i)	Candidates must be provided with current written information about the aims, learning outcomes, and methods of assessment of the programme.	Candidates are provided with current written information about the aims, learning outcomes, and methods of assessment of the courses.
2.4.1 (ii)	The programme must have an appropriate coordinator who has authority for planning, implementing, monitoring, evaluating and improving the programme through established procedures.	UPM assigns the Deputy Dean of each faculty to coordinate the planning, implementation, monitoring, evaluation and improvement of the programme in line with Sistem Pengurusan Kualiti (QMS) MS ISO 9001:2008 UPM.
2.4.1 (iii)	The programme must be regularly reviewed and evaluated in order to ensure attainment of MQF Level 7 for the Master's and MQF Level 8 for Doctoral degrees. The review must involve an external assessor.	UPM is in the process of reviewing and evaluating the attainment of the programme in line with MQF Level 7 and MQF Level 8.
2.4.1 (iv)	The department must provide candidates with a conducive learning environment in which a culture of research is nurtured.	Faculties and institutes strive to provide a conducive learning environment, such as upgraded research laboratories, better support facilities and graduate common rooms.
2.4.1 (v)	For the industrial doctoral programme, the learning environment must include the industry.	<i>In situ</i> research is practised for the industry doctoral programme.
2.4.1 (vi)	The HEP must have policies and procedures in place for candidates' grievances.	The university provides avenues for students to express their grievances through various channels, such as appeal procedures outlined in the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) in relevant clauses.

2.4.2		Enhanced Standards
NO	DETAILS	ANSWER
2.4.2 (i)	Innovations to improve supervision should be developed, supported, and evaluated.	The ICT based monitoring and evaluation system (e.g. iGIMs)has been developed.
2.4.2 (ii)	The review and evaluation of the programme should involve stakeholders as well as national and international external expertise.	The review and evaluation of the programme involve internal stakeholders who are experts in the relevant fields. UPM is extending the evaluation process to include international external expertise.

2.5 Linkages with External Stakeholders

2.5.1		Benchmarked Standards
NO	DETAILS	ANSWER
2.5.1 (i)	The department must have linkages with external stakeholders for the purposes of programme planning, implementation and review.	Linkages with external stakeholders are usually practised for programmes by research.

2.5.2		Enhanced Standards
NO	DETAILS	ANSWER
2.5.2 (i)	The department should collect feedback from employers for programme improvement (for example, for candidates' placement, training and workplace exposure).	Currently feedback from employers with regards to this programme is not required and therefore is not practised.
2.5.2 (ii)	Candidates should be encouraged and supported to develop linkages with external stakeholders.	Through sponsorship of seminar presentations, candidates are encouraged to network with external stakeholders.

AREA 3: CANDIDATE ASSESSMENT

Assessment of candidates is a crucial aspect of quality assurance because it drives candidates learning. It is one of the most important measures to show the attainment of learning outcomes. The results of assessment are also the basis of the award of postgraduate degrees. Hence, the methods of assessment of candidate must be clear, consistent, effective, reliable, in line with current practices, and supportive of the attainment of the learning outcomes

3.1 Assessment and Learning

3.1.1		
Benchmarked Standards		
No	Details	Answer
3.1.1(i)	Assessment of candidate must be consistent with the levels defined in the MQF and in the seven domains of learning outcomes.	Student assessment at UPM is consistent with the educational levels and domains of learning defined by MQF, in terms of the taxonomy level of knowledge, skills, and affective domains.
3.1.1(ii)	Assessment principles, methods and practices must be aligned to the learning outcomes and programme contents through two types of assessment, namely, formative and summative assessments.	UPM practises both formative and summative assessments on students.
3.1.1(iii)	Formative assessment must include: <ol style="list-style-type: none"> Monitoring of research progress periodically (for example, through a progress report, or a proposal defense). This will assess candidate's knowledge, critical thinking, practical, technical, professional, scientific and problemsolving skills. Research Presentation/ Colloquium/Seminar/ Workshop. This will enhance candidate's communication skills, teamwork, leadership, organisational skills, lifelong learning and professionalism. 	<p>The supervisory committee regularly monitors research progress through supervisory committee meetings. At the end of every semester, the student submits an online progress report (GS11). This report needs to be supported by the chairman of the supervisory committee and endorsed by the Deputy Dean/Deputy Director of the Faculty/Institute.</p> <p>The student is required to enroll on a research seminar course (SPS 5903/SPS 6903) for proposal defense.</p> <p>The student is encouraged to attend colloquia/seminars/workshops/conferences to present their research findings.</p> <p>The university supports these activities through fundings provided to them once in their tenure as postgraduate students.</p>

No	Details	Answer
3.1.1 (iv)	<p>Summative assessment is used to assess all learning outcomes of a Master's programme, and must include:</p> <ol style="list-style-type: none"> 1. completion of prescribed courses; 2. a dissertation; and 3. a viva voce (if required by HEP). 	<p>The supervisory committee may advise students to enroll for courses related to their areas of study. These courses may include methodology, statistics and related subject matter courses.</p> <p>Further to this, students are also required to write and complete a thesis.</p> <p>Upon submission, the thesis is sent to external and internal examiners.</p> <p>A viva voce is held once the examination reports are received by the School of Graduate Studies.</p>
3.1.1 (v)	<p>Summative assessment is used to assess all learning outcomes of a doctoral programme, and must include:</p> <ol style="list-style-type: none"> 1. completion of prescribed courses; 2. a thesis; and 3. a viva voce. 	<p>The supervisory committee may advise students to enroll for courses related to their areas of study. These courses may include methodology, statistics and related subject matter courses.</p> <p>The student is also required to pass a comprehensive examination.</p> <p>Further to this, students are also required to write and complete a thesis.</p> <p>Upon submission the thesis is sent to external and internal examiners.</p> <p>A viva voce is held once the examination reports are received by the School of Graduate Studies.</p>
3.1.1 (vi)	<p>The department must monitor assessment of candidate to ensure candidate's satisfactory progress. This must be monitored through:</p> <ol style="list-style-type: none"> 1. Regular consultations (formal and informal) 2. Proposal defense 3. Presentations/colloquia/seminars/ workshops 4. Research progress (using appropriate mechanisms) 	<p>The supervisory committee regularly monitors research progress through supervisory committee meetings. At the end of every semester, the student submits an online progress report (GS11). This report needs to be supported by the chairman of the supervisory committee and endorsed by the Deputy Dean/Deputy Director of the Faculty/Institute.</p> <p>The student is required to enroll on a research seminar course (SPS 5903/SPS 6903) and defend his/her research proposal to the faculty prior to writing the thesis.</p> <p>The student is encouraged to attend colloquia/seminars/workshops/conferences to present their research findings.</p> <p>The university supports these activities through fundings provided once in their tenure as postgraduate students.</p>

No	Details	Answer
3.1.1 (vii)	The HEP must ensure that appropriate attitudes are inculcated, including adherence to research ethics.	All research activities are required to obtain ethics committee approval. Academic integrity is monitored through anti-plagiarism screening accompanied by a detailed report prior to thesis submission.

3.1.2		Enhanced Standards
No	Details	Answer
3.1.2 (i)	The assessment and learning outcomes should be periodically reviewed to ensure their effectiveness.	Assessment and learning outcomes are periodically reviewed at least once a semester during the presentation and monitoring of the research progress. Details of the progress are recorded at the end of every semester in the online progress report (GS11).

3.2 Assessment Methods

3.2.1		Benchmarked Standards
No	Details	Answer
3.2.1 (i)	The methods of assessment of the candidates must be described, documented and communicated to the candidates (for example, information about their duration, diversity, weighting and coverage).	Students are informed of standard assessments and assessment criteria at the onset of their postgraduate study. Communication is in the form of briefings and documentations provided by the respective faculties/institutes and the School of Graduate Studies.
3.2.1 (ii)	The processes and procedures must be documented and made accessible to supervisors and candidates.	All students and supervisors are given the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) and thesis guidelines.
3.2.1 (iii)	A Dissertation/Thesis Examination Committee must be set up to ensure validity, reliability and fairness in the assessment of the dissertation/thesis.	A thesis examination committee is appointed upon approval by the Postgraduate Studies Committee. The thesis examination committee is comprised of external and internal examiners.
3.2.1 (iv)	Assessment procedures must be reviewed periodically, taking into consideration feedbacks from internal stakeholders.	The assessment procedures are reviewed through the internal auditing process.

3.2.2		Enhanced Standards
No	Details	Answer
3.2.2 (i)	The HEP should ensure that internal assessments are comparable to that of external best practices.	Standard evaluation criteria are used by both internal and external assessors to ensure the attainment of the best practices.
3.2.2 (ii)	External expertise (national and international) should be consulted in the review and their feedbacks obtained on the assessment procedures.	Feedback on GS11 and thesis assessment procedures from external experts has not been carried out.
3.2.2 (iii)	Assessment procedures must be reviewed periodically, taking into consideration feedbacks from external stakeholders.	A review of Examination Committee appointment process was conducted and improvements were made in Form GS14b.
3.2.2 (iv)	The HEP must have a mechanism to review and implement new methods of assessment.	A postgraduate student has the option to write his/her thesis in the traditional or non-traditional formats, in the form of a compilation of articles based on the student's research.

3.3 Management of Candidate Assessment

3.3.1		
Benchmarked Standards		
No	Details	Answer
3.3.1 (i)	The HEP is responsible for the assessment policy, and its terms of reference must be described. There must be committees and processes for: <ol style="list-style-type: none"> 1. verification and moderation of summative assessments; and 2. benchmarking of the academic standards of assessment. 	The assessment policy is deliberated upon and endorsed by the Senate. Academic standards and practices are detailed out in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) that are provided to all postgraduate students and lecturers. The implementation of the practices is monitored at all levels.
3.3.1 (ii)	Supervisors must be given sufficient autonomy to supervise and manage candidates' research progress and assessments.	The supervisory committee has full autonomy to supervise and manage candidates' research progress and assessments.
3.3.1 (iii)	There must be procedures available for candidates to bring up issues or concerns to the attention of relevant authorities.	The Review and Appeal Committee oversees all concerns and issues raised by postgraduate students.
3.3.1 (iv)	The HEP must be responsible for the confidentiality and security of candidate assessment processes and academic records.	The Internet Graduate Information Management System (iGIMS) has been developed and used to manage the academic records. Only authorised users have access to the system to ensure confidentiality and security of the records.
3.3.1 (v)	The performance and results of summative and formative assessments must be made available to candidates through appropriate mechanisms.	Postgraduate students have access to their assessment results and status through the iGIMS.
3.3.1 (vi)	The HEP must provide feedbacks to candidates on their academic performances and ensure that they have sufficient time to undertake remedial measures. Necessary measures must be undertaken to provide feedbacks to candidates on performance, review and corrective measures.	Feedback on the academic performance of students is provided through supervisory committee meetings and seminar presentations.

No	Details	Answer
3.3.1 (vii)	The HEP must establish and document procedures on the criteria and selection of examiners.	Criteria and selection of examiners are described in-depth in the (Graduate Studies) Rules 2003 (Revision 2012-13).
3.3.1 (viii)	<p>The qualification requirements of an examiner must be clearly stated:</p> <ol style="list-style-type: none"> 1. An examiner must have a minimum qualification of no less than the supervisor. 2. Where an examiner is without the required qualification, the appointment is subject to the approval of the HEP Senate. 	<p>The qualification requirements of an examiner are described in-depth in the (Graduate Studies) Rules 2003 (Revision 2012-13).</p> <p>The University Senate endorses the composition of the examination committee.</p>
3.3.1 (ix)	<p>Composition of dissertation/thesis examiners is as follows:</p> <p><u>Master's degree by research</u> The Master's dissertation must be examined by at least two examiners, one of whom is an external examiner.</p> <p><u>Doctoral degree by research</u> For PhD, including PhD by published work, the thesis must be examined by at least three examiners, two of whom are external examiners.</p>	In accordance with the Universities and University Colleges Act 1971, Constitution of Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-13) Clause 51, the Thesis Examination Committee comprises a Chairman and three examiners, of which at least one shall be the external examiner. For PhD theses, the practice is to appoint external examiners from universities/institutions overseas except if the theses are written in Bahasa Melayu.
3.3.1 (x)	The department must advise the examiners to adhere to a stipulated time for the dissertation/thesis examination.	In the appointment letters to the examiners, the stipulated time for thesis examination is clearly stated. Reminder letters are given to examiners who exceed the stipulated time.
3.3.1 (xi)	The HEP must provide a mechanism for candidates to appeal the results of their dissertation/thesis examination/viva voce.	The Postgraduate Student Review Committee oversees appeals of thesis examination results.

3.3.2	Enhanced Standards	
No	Details	
3.3.2 (i)	Internal and external stakeholders should be involved in reviewing the system of assessments of candidates.	<p>For taught courses, the academic staff can key-in grades using Putra LMS. The process for selection of assessors for a candidate's thesis involves the following process:</p> <p>The Faculty Graduate Committee approves selected members of the Examination Committee and this is then reviewed by the Subcommittee for Examination and Supervision of Thesis (<i>Jawatankuasa Kecil Peperiksaan dan Penyeliaan Tesis</i>) followed by the Universiti Graduate Studies Committee (<i>Jawatankuasa Pengajian Siswazah Universiti</i>). Following receipt of the examination report from the internal and external examiners, a viva voce is conducted.</p> <p>Feedback on the system of assessments is provided through the Customer Satisfaction Survey Form (SOK/PEL/BR04/KKP PASCA SIS).</p>

AREA 4: CANDIDATE SELECTION AND SUPPORT SERVICES

In general, the admission policies of the programme need to comply with the prevailing policies of the Malaysian Ministry of Higher Education (MOHE). There are varying views on the best approach for candidate selection. Whatever the approach used, the HEP must be able to justify and defend its selection and maintain consistency in its implementation. The number of candidates to be admitted to the programme is generally determined by the capacity of the HEP and the number of qualified applicants. HEP admission and retention policies must not be compromised for the sole purpose of maintaining a desired enrolment. If an HEP operates across geographically-separated campuses or if the programme is collaborative in nature, the selection and assignment of all candidates must be consistent with national policies.

4.1 Admission and Selection

4.1.1 Benchmarked Standards		
No	Details	Answer
	<p><u>Master's degree: Admission and Selection</u></p> <ol style="list-style-type: none"> 1. A Bachelor's degree with a minimum CGPA of 2.75 or equivalent, as accepted by the HEP Senate; or 2. A Bachelor's degree which does not meet the required CGPA of 2.75 or equivalent can be accepted subject to rigorous internal assessments; or 3. Other qualifications equivalent to a Bachelor's degree that are accepted by the HEP Senate. 4. Other relevant qualification, experience and requirements accepted by the HEP Senate. 	<p>Universiti Putra Malaysia has its own selection criteria and process for the admission of local and international applicants. For admission into postgraduate programmes, regulations and guidelines set by the MOHE and the University are adhered to.</p> <p>Application is made directly on-line to the School of Graduate Studies (SGS) of the University.</p> <p>The SGS then forwards the applications to the JKPSF/JKPSI for evaluation of admission criteria and suitability of the applicants to the applied programme.</p> <p>The JKPSF/JKPSI will then forward a recommendation to the JKPPS for approval and then to the JKPSU for endorsement.</p> <p>The Admission requirements are as follows:</p> <p>Academic Requirements Master's Degree Programme</p> <p>An applicant with a good scholastic achievement in a Bachelor's degree or its equivalent (subject to specific programme requirements).</p> <p>An applicant without sufficient academic qualification but</p>

		<p>possessing evidence of adequate related research or work experience may also apply for admission. A student in the final semester of undergraduate study may apply for provisional admission provided his current CGPA satisfies the programme requirements.</p>
	<p><u>Doctoral Degree: Admission and Selection</u></p> <ol style="list-style-type: none"> 1. A Master's degree accepted by the HEP Senate; or 2. Other qualifications accepted by the HEP Senate equivalent to a Master's degree; or 3. Other relevant qualifications, experience and requirements accepted by the HEP Senate 	<p>Doctoral Degree Program</p> <p>An applicant must possess a Master's degree or its equivalent.</p> <p>An applicant with an outstanding Bachelor's degree with a CGPA of 3.750 and above or equivalent to first class honors may, subject to any other requirements, also apply for direct admission into the PhD degree programme.</p> <p>An applicant for provisional admission may also be made by a student who has submitted his Master's thesis for examination.</p> <p>*Note: The Faculty or Institute may impose additional admission and programme requirements.</p>

No	Details	Answer
	<p>Note:</p> <ol style="list-style-type: none"> 1. There shall be no direct entry from the Bachelor's degree level to the Doctoral degree level. 2. Candidates registered for the Master's degree programmes with at least a CGPA of 3.67 may apply to convert their candidacy to the Doctoral degree programmes subject to: <ol style="list-style-type: none"> a) having shown competency and capability in conducting research at the Doctoral degree level b) approval by the HEP Senate. <p><i>PhD by Published Work: Admission and Selection</i></p> <p>The applicant must have publications that contribute to the scholarship of knowledge in the field and acknowledged by academic peers. A formal application must be submitted to the Office of the Registrar and must include:</p> <ol style="list-style-type: none"> 1. A minimum of five publications in alignment with the areas of specialisation. 2. An executive summary of the above publications to demonstrate the applicants' contributions to knowledge in the field. 3. A list of scholarly published work. <p>A Selection Committee must be established to review the formal application of PhD by published works and to recommend to the Senate the admission to candidature.</p> <p>For international candidates, the language proficiency requirements must be determined by the HEP Senate.</p>	<p>Industry-based PhD Programme: UPM has opened a window of opportunity to professionals and industrial practitioners to pursue a PhD programme solving industry-based problems.</p> <p>PhD by published work is not practised in UPM</p>

4.1.2	Enhanced Standards	
No	Details	Answer
	<p><i>Masters Degree: Admission and Selection</i></p> <p>1. Applicants with diploma qualifications in the relevant field, with a minimum of ten years relevant experience, should be required to undertake and pass a specified number of related final year subjects</p> <p><i>Doctoral Degree: Admission and Selection</i></p> <p>1. Applications from candidates without a master qualification, but with a bachelor degree qualification with a minimum CGPA of 2.75 and a minimum of ten years relevant experience, should be considered.</p>	<p>For Doctor of Engineering a bachelor degree candidate can be considered with the following condition:</p> <ol style="list-style-type: none"> a. Bachelor degree in Engineering with CGPA of 3.75 or first class and 3 years experience in relevant industry. b. Bachelor degree in Engineering with CGPA between 3.51-3.74 and 5 years experience in relevant industry. c. Bachelor degree in Engineering with CGPA between 3.26-3.50 and 7 years experience in relevant industry. d. Bachelor degree in Engineering with CGPA between 2.75 - 3.25 and 10 years experience in relevant industry.

4.2 Articulation Regulations, Credit Transfer and Credit Exemption

4.2.1 Benchmarked Standards		
No	Details	Answer
	<u>Master's and Doctoral Degrees</u>	
4.2.1 (i)	Information on policies, regulations and processes of credit transfer, credit exemption and articulation practices must be documented in HEP policies and regulations for the programme.	Information on policies, regulations and processes of credit transfer, credit exemption and articulation practices are documented in the UPM (Graduate Studies) Rules 2003 (Revision 2012-2013) book.
4.2.1 (ii)	The document must be made accessible to candidates and staff.	This document is made accessible to all postgraduate students and staff from their iGIMS portals.

4.2.2 Enhanced Standards		
No	Details	Answer
4.2.2 (i)	<u>Master's and Doctoral Degrees</u> The HEP should continually update the processes of articulation, credit transfer and credit exemptions, including national and international collaborative provisions.	The SGS continually updates the processes of articulation, credit transfer and credit exemptions, including national and international collaborative provisions via student and staff portals (iGIMS).

4.3 Candidate Transfer

4.3.1		Benchmarked Standards
No	Details	Answer
	<p><u>Master's Degree: Candidate Transfer</u></p> <p>The HEP must clearly define and effectively disseminate policies, regulations and processes concerning:</p> <ol style="list-style-type: none"> 1. articulation practices for transfer of candidature from one mode to another (e.g. coursework to mixed mode). 2. articulation practices for transfer of candidature from one programme to another. 3. articulation practices for transfer of candidature from one HEP to another. 	<p>The general procedures of candidate transfer from one mode to another and from one programme to another is stipulated in Rule 27 of the Universiti Putra Malaysia's (Graduate Studies) Rules 2003 (Revision 2012-2013).</p> <p>Transfer of candidature from another HEP is stipulated in Rule 17 of the Universiti Putra Malaysia's (Graduate Studies) Rules 2003 (Revision 2012-2013).</p>

4.4 Candidate Support Services and Co-Curricular Activities

4.4.1		Benchmarked Standards
No	Details	Answer
4.4.1 (i)	<p>The HEP must have an organisational structure that includes support services and co-curricular activities. The following support services are essential for candidates' well-being:</p> <ul style="list-style-type: none"> • Health services • Recreation and sports facilities • Security • Counseling services • Internet service • Health insurance for international candidates • Documentation services 	<p>The university provides the following on-campus services to all enrolled students:</p> <ul style="list-style-type: none"> • Health services • Recreation and sports facilities • Security • Counseling services • Internet service • Documentation services • Transport <p>International candidates are required to purchase health insurance.</p>

4.4.2 Enhanced Standards		
No	Details	Answer
4.4.2 (i)	The HEP should provide support services for candidates' well-being: <ul style="list-style-type: none"> • Accommodation • Health insurance • Financial aid • Transportation • Child care centre • Places of worship 	The university provides health services, transportation, limited accommodation facilities and immigration related services. Most places of worship are easily accessible. Financial aid schemes are available for both local and international students. Limited child care services are available on campus.

4.5 Candidate Representation and Participation

4.5.1 Benchmarked Standards		
No	Details	Answer
4.5.1 (i)	The HEP must clearly define and effectively disseminate policies, regulations and processes concerning candidate representation and participation.	The university practises inclusive governance by involving postgraduate students in any relevant decision-making processes, such as in strategic planning meetings.

4.5.2 Enhanced Standards		
No	Details	Answer
4.5.2 (i)	Candidate activities should enhance soft skill attributes, such as management, leadership, and community engagements.	Postgraduate students are involved in student bodies (UPMISA, Peer Support Group and MPP). Students can be involved in community-based activities.

4.6 Alumni

4.6.1 Benchmarked Standards		
No	Details	Answer
4.6.1(i)	The HEP must clearly define and effectively disseminate policies, regulations and processes concerning development and operation of the alumni.	Several alumni chapters have been established abroad. In addition, an Alumni Support Group has been recently established by the School of Graduate Studies.

4.6.2	Enhanced Standards	
No	Details	Answer
4.6.2 (i)	The HEP should engage the alumni in preparing candidates for their profession.	Engagement of alumni in preparing candidates for their profession is sometimes practised.
4.6.2 (ii)	The HEP should engage the alumni so that they can contribute to the development of the HEP.	The university practises inclusive governance by involving the alumni in any relevant decision-making processes, such as in strategic planning meetings.
4.6.2 (iii)	The alumni should be involved in linking the HEP with the community.	The alumni have been involved in linking the HEP with the community through organised student recruitment and community-based activities.

AREA 5: ACADEMIC STAFF

The quality of the academic staff is one of the most important components in assuring the quality of higher education. Every effort must be taken to establish proper and effective recruitment, service, development and appraisal policies that are conducive to supporting and enhancing staff quality and productivity. Every programme must have appropriately qualified and sufficient number of academic staff. It is recruitment and retention of the best talent.

An academic staff member is expected to be actively involved in research and consultancy, in addition to supervising or advising research candidates. Sufficient mechanism should be put in place to provide training for academic staff in supervisor skills and to ensure the exposure of supervisors to best practices.

Workload and its equitable distribution is one of the ways that the HEP can acknowledge meritorious contribution for the purpose of promotion, salary determination or other incentives.

5.1 Recruitment and Management

5.1.1		Benchmarked Standards
No	Details	Answer
5.1.1 (i)	The HEP must have a policy and procedures for the recruitment of academic staff.	<ol style="list-style-type: none"> 1. All appointments to the University's service are based on the Service Scheme as specified by the Government according to the Regulations on Public Officers (Appointment, Promotion and Termination of Service) 2005, Service Circular No. 8/2002 (List of Qualifications Recognised by the Government for Appointments into the Civil Service), the Service Circular from UPM's Registrar's Office (Registrar Circular No. 1/2007, 22 May 2007, and Registrar Circular No. 1/2008, 15 September 2008). 2. The policy on appointment and promotion of academic staff is described in Section 5.1.1. Appendices 5.1.7.1 and 5.1.7.2 show the processes for the appointment and promotion of academic staff, respectively

5.1.1 (ii)	The terms and conditions of service must be clearly stated in the offer letter and reviewed periodically.	<ol style="list-style-type: none"> 1. In addition, UPM imposes special requirements for the appointment of academic staff, that is, lecturers must have a PhD qualification or equivalent except for those in the fields of architecture and medicine. These special requirements are detailed in Appendix 5.1.1.1 (Minutes of UPM Management Committee meetings 21 September, 25 September and 2 October 2001). 2. The terms and conditions of the appointment are outlined in every offer letter issued by the Registrar's Office. 3. Since 2006, when UPM was conferred the Research University (RU) status, the Government's staff recruitment policy has been reviewed twice as documented in the Registrar Circular No. 1/2007 (22 May 2007) and Registrar Circular No. 1/2008 (15 September 2008).
5.1.1 (iii)	The HEP must establish a policy for the appointment of supervisors to ensure the quality and the sustainability of the programme.	Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7 : no. 36.
5.1.1 (iv)	<p>The qualification requirements of a supervisor must be clearly stated:</p> <p><u>Master's degree by research</u></p> <ol style="list-style-type: none"> 1) A supervisor must have a minimum qualification of one level higher than the degree level enrolled on by the candidate, for example, a Doctoral Degree. 2) Where a supervisor is without the required qualification, the supervisor must have at least five years' experience: <ol style="list-style-type: none"> a) in teaching and research; or b) as a co-supervisor. 3) The additional criteria are subject to the approval of the HEP Senate. 	<p>Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 36 (iv).</p> <p>Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 36 (vi).</p>

	<p><u>Doctoral degree by research</u></p> <p>1) A supervisor must have a minimum qualification of the equivalent degree level enrolled on by the candidate and at least two years' experience:</p> <p>a) in teaching and research; or b) as a co-supervisor.</p> <p>2) Where a supervisor is without the required qualification, extensive experience in research and supervision are additional criteria and are subject to the approval of the HEP Senate.</p>	<p>Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 36 (v – vi)</p> <p>Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 36 (ii)</p>
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No	Details	Answer
5.1.1 (v)	Where there is only one supervisor, the supervisor must be a full-time staff of the conferring HEP.	Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 35 (ii).
5.1.1 (vi)	Where there is more than one supervisor, the principal supervisor must be a full-time staff of the conferring HEP.	Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 35.
5.1.1 (vii)	For the industrial doctoral programme, in addition to academic supervisor(s), an industrial supervisor(s) must be appointed. The appointment of both supervisors must satisfy the HEP requirements.	Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 35.
5.1.1 (viii)	<p>The HEP must establish guidelines for supervisors including information on:</p> <ol style="list-style-type: none"> 1) delineating roles and responsibilities of supervisors; 2) prescribing ethical principles for the purpose of assisting supervisors in the identification and resolution of ethical issues which may arise in the course of their research; 3) ensuring that supervisors conduct all activities with academic integrity and in compliance with the Code of Conduct, relevant laws, rules and regulations; and 4) ensuring an appropriate supervisor-to-candidate ratio for effective supervision. 	<p>Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 41.</p> <p>http://www.sgs.upm.edu.my/images/pdffiles/rosas.pdf</p> <p>http://www.sgs.upm.edu.my/images/pdffiles/rosas.pdf</p> <p>Refer to (Graduate Studies) Rules 2003 (Revision 2012-13) Part 7: no. 42.</p>

No	Details	Answer
5.1.1 (ix)	The research skills, experience and specialisations of a supervisor must align with the research area of the candidate.	The University, through the SGS, will ensure that the research area of the candidate is aligned to his supervisor. The Supervisory Committee will be endorsed by the SGS. Refer to SPK, UPM :P010
5.1.1 (x)	The HEP must establish a mechanism for monitoring supervision process.	http://www.sgs.upm.edu.my/images/pdf/rozas.pdf
5.1.1 (xi)	Recognition, reward and remuneration must be commensurated with appropriate workload distribution and meritorious supervisions, based on transparent policies and procedures.	<p>The performance and contributions of academic staff are assessed through the <i>Skim Saraan Malaysia (SSM)</i> and the Annual Performance Appraisal Report (<i>Laporan Penilaian Prestasi Tahunan</i>) that take into account the performance and contributions in terms of teaching, research, administration and extension (professional and community) services.</p> <p>Recognition of excellence is given in the form of Service Excellence Awards; promotions to positions of senior lecturer, associate professor, and professor; and the Vice Chancellor's Fellowship Awards and other Fellowship Awards for Best Lecturer, Researcher and Consultant.</p> <p>In addition, UPM offers financial incentives for articles published in non-citation and citation indexed journals, impact factor articles, chapters in books published by local and international publishers, books published by local and international publishers. The University also offers rewards for patents filed and patents granted. For journal articles, the incentive is given only if the academic staff member has fulfilled the Key Performance Indicators (KPIs) as stipulated for each publication category.</p>

5.1.2 Enhanced Standards		
No	Details	Answer
5.1.2 (i)	The HEP should establish a supervisory committee that guides the candidates in planning the research and preparing the dissertation/thesis.	Refer to Document SPK :PU/S/SS-01
5.1.2 (ii)	The HEP should promote national and international linkages in enhancing the quality of supervision.	Putra Sarjana Programme, School of Graduate Studies

5.2 Service and Development

5.2.1 Benchmarked Standards		
No	Details	Answer
5.2.1 (i)	The HEP must encourage academic staff to engage in scholarly activities in order to attain national and international recognition.	<p>Continuous Professional Development (CPD) for academic staff is made available through various programmes organised by the Centre for Academic Development (CADE), the Research Management Centre (RMC) and the Human Resource Development (HRD) Division. In general, each staff member is required to attend a minimum of seven days of training per year.</p> <p>In addition to the structured programme described above, academic staff can also participate in other CPD programmes such as seminars, conferences and workshops, professional attachments, sabbaticals, sub-specialty trainings, and postdoctoral attachments.</p> <p>Academic staff are encouraged to contribute their services to the community. Some of the major activities include participation in NGOs such as the Red Crescent Society, Parent-Teacher Associations, CUEPACS, WWF, MERCY, ALIRAN, MAKNA, FELDA, FAMA, etc. Staff contribute by being members or office bearers of such organisations.</p>

No	Details	Answer
5.2.1 (ii)	The HEP must facilitate the provision of training in supervising skills for thesis/dissertation supervisors.	The University has established the CADe, the RMC and the HRD Division to support academic staff development. CADe was established in 2004 with the aim to support development in teaching and learning. The HRD Division regularly conducts staff development programmes such as preparatory and induction courses and competency level assessment courses.

5.2.2		Enhanced Standards
No	Details	Answer
5.2.2 (i)	The HEP should encourage participation in professional, academic and research communities at national or international level.	
5.2.2 (ii)	The HEP should encourage research activities beyond postgraduate research that will benefit the industry and the community.	As a Research University, UPM places strong emphasis and great value on research, development and commercialisation, and these areas form one of the major focuses of the University's goals.
5.2.2 (iii)	The HEP should have in place a mentoring system for the enhancement of the quality of supervision.	http://www.sgs.upm.edu.my/images/pdf/files/rosas.pdf Centre of Academic Development (CADe) UPM is conducting regular training on supervision for academic staffs and new lecturers.
5.2.2 (iv)	The HEP should encourage industrial attachments.	

AREA 6: RESEARCH RESOURCES

Appropriate research facilities must be included as part of educational resources. This is because a research-active environment improves the quality of higher education.

Adequate research resources are essential to support research activities. These include physical facilities, human capital, financial allocations, online resources, networking and collaboration. Equally important is the quality, relevance, accessibility, availability and delivery of such resources and services, and their actual utilisation by candidates.

An excellent research culture attracts high calibre candidates and academics, and these foster critical thinking and enquiring minds, contributing to the advancement of knowledge.

Active researchers also attract grants that increase the scope of research undertaken by staff, thus, enhancing researcher's knowledge and experience. Research resources at the university also encourage interdisciplinary research which has positive effects on academic programmes. A balanced and proportional increase in direct and indirect educational resources supports research.

A research-active environment provides opportunities for researchers to learn and participate in research. Exposure to an environment which arouses curiosity and the spirit of inquiry encourages researchers to develop lasting skills in problem-solving, data analysis and the continuous updating of knowledge.

6.1 Physical Facilities

The needs of the programme and the specific field of research determine the required physical facilities of a programme. These include adequate physical space, equipment and support facilities for teaching and learning, research activities and administration.

6.1.1		Benchmarked Standards
No	Details	Answer
6.1.1 (i)	The programme must have adequate and appropriate physical facilities to support research activities.	<p>Currently, UPM has sufficient equipment, facilities and human resources to support its academic and research programmes. Physical facilities are crucial to support research activities. At UPM, facilities such as lecture halls, classrooms, workstations, personal working spaces, postgraduate rooms, computer laboratories, research laboratories and workshops are available. In addition to these facilities, students have access to a range of common facilities in UPM shared by all staff and students in the respective faculties, sections or units. Physical facilities and resources required for teaching and learning are adequate and listed below:</p> <p>Table 6.1: List of physical facilities at UPM</p> <ol style="list-style-type: none"> i. Faculties ii. Sultan Abdul Samad Library iii. School of Graduate Studies (SGS) iv. Centre for Academic Development (CADE) v. Research Management Centre (RMC) vi. InfoComm Development Centre (iDEC) vii. UPM Mosque (capacity for 5,000 congregation) viii. 17 students' residential colleges (capacity for 27,000 students) ix. Health Centre (with laboratory and in-patient facilities) x. Other student support facilities such as a sports complex, a bank and a post office xi. Recreation areas xii. Islamic Centre xiii. Sultan Salahuddin Abdul Aziz Shah Arts and Cultural Centre xiv. Security Division xv. Fire fighting facility "Bomba Bantu Mula"

6.1.1 (ii)	The physical facilities must comply with the relevant laws, and with those pertaining to health and safety regulations.	The Development and Asset Management Office (PPPA) of UPM ensures that physical facilities are regularly checked for compliance with the Occupational Safety and Health Act, the fire and radiation safety law and other health and safety regulations. Health and safety regulations are part of QMS (ISO), OSHA, ISO 9000 and ISO 17025. Evidence of the compliance is available in the form of audit reports. (Refer on Human, animal and GMO ethical guidelines with RMC)
6.1.1 (iii)	The HEP must have guidelines regarding the allocation of physical facilities.	Allocation of physical facilities are given to all Cost Centres based on requests by faculties and institutes depending on the requirements of the programmes, and the number of students.
6.1.1 (iv)	The HEP must have a policy for effective use of information and communication technology (ICT) in the programme.	The policy on the use of ICT is to make UPM a fully connected campus, as specified in <i>Dasar ICT UPM 2003</i> . ICT is used to support academic programmes that use computer labs, language and mass communication labs, wireless services, online library services and online learning management systems. ICT also supports the management of student records via I-GIMS, whilst subscribing to online databases such as the usage of Turnitin software. Planning, development and execution of ICT policies in UPM is under the responsibility of IDEC (Pusat Pembangunan Maklumat dan Komunikasi).
6.1.1 (v)	The library or resource centre must have adequate space and up-to-date references.	UPM main library (Perpustakaan Sultan Abdul Samad) has over the years built up its collection in various subject fields, both in print and electronic format. The Library currently holds a collection of 670,000 volumes of books and bound journals, as well as a collection of maps, sound recordings, microforms, video tapes and slides. The Library also subscribes to 80 online databases which provide access to about 80,000 full text articles on various fields and are accessible from and within and outside UPM through our Website (http://www.lib.upm.edu.my). PSAS is also equipped with Wi-Fi internet facilities thus enabling users to use their own laptop within the Library building. Apart from PSAS, UPM also has Veterinar Medicine Library, Medicinal and Health Science Library and

		Bintulu Sarawak Branch Library situated at the respective faculties.
6.1.1 (vi)	Candidates must have access to relevant facilities within and outside the HEP when required.	Candidates are given access to relevant facilities within UPM. Access to facilities outside of the HEP are also available through centralized/shared facilities, MoUs, outsourcing of certain facilities through research grants, Smart cards, online databases, mobility programmes, student attachment and dual degree programmes.
6.1.1 (vii)	For industrial doctoral programmes, research facilities must be made available.	Industrial doctoral candidates would normally conduct research at their workplace, therefore most of the facilities will be made available by their employer. However additional facilities required are available within UPM.
6.1.1 (viii)	The physical facilities must be continually maintained, improved or replaced.	Maintenance, repair and calibration of all physical facilities are continuously conducted as subject to by ISO 9001 requirements. Replacement and upgrading of equipment are budgeted under RU allocations and one-off budgets.

6.1.2 Enhanced Standards		
No	Details	Answer
6.1.2 (i)	Candidates should have the opportunity to be trained in the usage of relevant research facilities.	Candidates who are permitted to use research facilities on their own are trained and assisted by well-trained staff.
6.1.2 (ii)	Physical facilities should include accredited laboratories based on national and international standards	UPM has four accredited laboratories under MS17025 and another 9 are currently undergoing the process of accreditation.

6.2 Research Expertise

Research expertise refers to staff who have been trained in their respective disciplines or with adequate knowledge and experience in the research areas, methodologies, and matters related to research activities. They advise and assist whenever there are problems and provide training in research processes and activities. Research expertise can be provided internally by the HEP or acquired from an external source.

6.2.1 Benchmarked Standards		
No	Details	Answer
6.2.1 (i)	The HEP must have policy or guidelines on the development and management of research expertise.	<p>UPM has established UPM Research Policy on the development and management of research expertise. It acts as a quality assurance system to improve the standard of research practice by defining and disseminating the meaning of quality research.</p> <p>In UPM, the development of research expertise is currently being managed by Centre of Academic Development (CADE).</p> <p>UPM has published the Directory of Research Expertise - Currently the information on the expertise can be assessed online under the Research Management Centre portal.</p>

6.2.2 Enhanced Standards		
No	Details	Answer
6.2.2 (i)	The HEP should acknowledge the contribution of the research expertise towards the programme.	<p>UPM acknowledges the contribution of the research expertise through the following recognitions:</p> <ul style="list-style-type: none"> • UPM Top 100 researchers • Vice Chancellor Fellowship Awards • Publication incentives • Career promotion/advancement • Allocation of special internal research grant • Promotion of outstanding Research Group to Research Center • Commercialisation award

		<ul style="list-style-type: none"> • Other Fellowship Awards • Service Excellence Award (APC)
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6.3 Financial Allocation

Financial allocation refers to disbursement of funds for the management and the sustainability of the programme

6.3.1 Benchmarked Standards		
No	Details	Answer
6.3.1 (i)	The HEP must have clear lines of responsibility and authority for budgeting and resource allocation that takes into account the specific needs of the programme.	Allocations for the program are fixed by the treasury at the beginning of the budgetary process. The University uses Performance Based Allocation as a tool for the top management to manage budgeting and resource allocations. This is done based on two principles, namely, "Empowerment" and "Accountability". Based on the principle of "Let managers manage", through the Programme Agreement, the top management devolves its authority to the managers.
6.3.1 (ii)	The HEP must have budgetary and procurement procedures to ensure that its resources are sufficient and that it is capable of utilising its finances efficiently.	Managers must comply with the stipulated rules and regulations to ensure the efficiency and effectiveness of the programmes within the limits of the financial allocations. The accountability of lower level management to higher level management is achieved through the Programme Agreement as shown in Figure 6.5.3.
6.3.1 (iii)	The financial allocation must be adequate to support the programme.	The financial allocation is adequate to support the programmes based on PBA. The budget provided to the University is sufficient to effectively carry out the university's core functions. However, if the university intends to undertake impactful projects, it has to submit proposals for more funds.

6.3.1 (iv)	The HEP must have a system for disbursement of research funds to support the programme.	<p>Research funds are obtained from the government, private sectors and international agencies. These funds are awarded through competitive bidding based on performance or strategic initiatives, depending on the nature of the activities. These funds are used for research consumables, facilities and equipment, financial aids for students and other related needs. For pre-commercialization initiatives, these funds can also be used for business development activities such as construction of pilot plants, marketing, promotion and business plan development.</p> <p>The management of R&D&C is based on procedures and guidelines as stated in the UPM Research Policy and the QMS.</p> <p>Some of the major research grants received are as follows:</p> <p>Public funding:</p> <ul style="list-style-type: none"> • MOSTI - Science Fund, Techno Fund, Innofund • MoHE – LRGS, FRGS, ERGS, PRGS, Research University Grants (RUGS) • KPPK/MPOB - Ministry of Plantation Industries and Commodities • State Governments • Government agencies- JAKIM, PEMANDU <p>Private funding:</p> <ul style="list-style-type: none"> • FELDA Holdings • PETRONAS • PUNCAK NIAGA • BERNAS • Indah Water (IWK) • MTDC • BIOTECHCORP • MAKNA • Sime Darby
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6.3.2		Enhanced Standards
No	Details	Answer
6.3.2 (i)	Those responsible for the programme should be given sufficient autonomy to appropriately allocate resources to achieve the programme goals and to maintain high research standards.	UPM allocates resources based on the approval of the University's budget by the top management in accordance with the Treasury Circular. The Cost Centres (PTJ) utilise the resources according to the Programme Agreement, which is an agreement between the cost centres and the Vice Chancellor. It consists of three main elements of the budget which are input (resources), output (efficiency) and impact (effectiveness).

6.4 Online Resources

Online resources refer to resources for self-access such as e-journals, e-books, patent databases and search engines to support research activities.

6.4.1		Benchmarked Standards
No	Details	Answer
6.4.1 (i)	Online resources must be made available to support research activities.	<p>Most of the buildings in campus are WiFi-enabled, thus allowing users to use their own laptops at any time. The number of users who have registered to use the WiFi service has reached 12,810. The campus can accommodate unlimited number of WiFi users. To enable registered users to access from outside campus, an authentication is done using a proxy server programme called EZProxy.</p> <p>Advancement in ICT has enabled the campus to improve extensively its resource sharing and access mechanism to online resources. Supported by an efficient campus computer infrastructure, the users can access information locally and worldwide. Computers are also provided in special electronic reference rooms in the main library and computer rooms at various faculties and institutes.</p> <p>Major library operations are supported by VIRTUA, an integrated library system incorporating all library functions such as acquisition, cataloguing, circulation,</p>

		<p>serials and Online Public Access Catalogue (OPAC). The computerised library system implemented for the last 20 years has enhanced the library capabilities, by providing fast and easy access to the library records and resources. The web-based OPAC enables access to the library catalogue from outside, apart from allowing library patrons to perform renewal and reservation transaction remotely. The self-check machine and book-drop integrated with the library system provide a quick and efficient circulation service. Borrowing and renewals can be done without having to queue at the counter, and books can be returned when the library is closed. Circulation statistics for 2008 recorded that 73,339 (37%) borrowing transactions were done at the self-check machine, while 65,349 (25%) items borrowed were returned at the book-drop.</p>
6.4.1 (ii)	<p>Candidates must have access and be trained in the use of online resources.</p>	<p>Candidates have access to online resources such as e-journals, e-books, patent databases and search engines to support research activities. UPM library conducts user education programmes to teach and assist users on how to effectively utilise all the online information sources, services and facilities provided by the library. The user education programmes include library orientation sessions for new students and scheduled/requested classes covering topics like information search strategy, OPAC, Turnitin and electronic/online databases.</p>
6.4.1 (iii)	<p>The HEP must provide mechanisms for procuring, disseminating and monitoring the usage of online resources.</p>	<p>The procurement and monitoring of the online resources are managed by the UPM library. The resources are accessible campus-wide. In its effort to support the research activities, the main library provides specialised services through liaison librarians who continuously assist candidates in identifying and updating relevant online resources. The librarians will also respond to suggestions from faculties, schools and institutes, and support their information needs via Faculty-Library representatives.</p>

6.4.2 Enhanced Standards		
No	Details	Answer
6.4.2 (i)	The HEP should facilitate collaboration to encourage knowledge sharing among national and / or international candidates.	UPM encourages knowledge sharing on online resources among the candidates at national and / or international levels by promoting the use of "Drop Box", web links to other libraries.

6.5 Networks and Collaborations

Networks and collaborations refer to the participation in and sharing of intellectual knowledge, facilities and services among researchers and institutions at national and international levels.

6.5.1 Benchmarked Standards		
No	Details	Answer
6.5.1 (i)	The HEP must facilitate networking and collaboration among researchers and institutions at national and international levels.	<p>UPM via TNCPI and TNCJINM offices facilitate networking and collaboration among researchers and institutions at national and international levels.</p> <p>To enhance scholarly activities, UPM has established national and international linkages through the appointment of experts such as research fellows, contract lecturers, assessors and visiting professors/fellows. In addition, there are collaborative research and publication efforts, joint supervisions, and staff and student exchange.</p> <p>Memorandums of Understanding (MoUs) have been drawn up with local, regional and international HEPs to establish such collaborations. Currently, there are more than 77 MoUs/MoAs involving 25 countries, some of which are shown in Appendix 5.1.9.1.</p> <p>In addition, UPM has also introduced Dual and Joint degree programmes with reputable universities to encourage international collaborations. Joint postgraduate supervision will be carried out through the programmes. Joint supervisions may also be executed</p>

		<p>through collaborations between UPM lecturers and individuals at other local and international universities.</p> <p>UPM also encourages and gives support to lecturers and candidates to participate in research attachment programmes under Inbound and Outbound Mobility Schemes.</p>
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6.5.2 Enhanced Standards		
No	Details	Answer
6.5.2 (i)	The HEP should have a policy and future plan for networking and collaboration with national and international institutions.	<p>UPM has set KPI for all faculties and institutes to establish networking and collaborations with national and international institutions.</p> <p>UPM also promotes international collaborations via the establishment of International Center. The center establishes the International Chapter of UPM Alumni which promotes linkages with the institutions in their countries.</p>
6.5.2 (ii)	The HEP should provide appropriate facilities and adequate financial allocation for networking and collaboration among researchers.	<p>The University provides the necessary facilities and adequate budget allocations to support networking and collaboration among researchers. The budget allocations made available by the University.</p> <p>This budget allocation will be used for activities such as research attachments, travel grants, post-conference extended stays, and products promotions/exhibitions.</p> <p>UPM is a leading institution in promoting research collaboration between RUs and other universities in Malaysia. This is done through a matching grant scheme known as Research Acculturation Collaborative Efforts (RACE) funded under MOHE. UPM has allocated RM5 million in 2012 to match the grants approved by MOHE under this scheme.</p> <p>Figure 6.5.2 (ii)</p>

Table 6.1: List of Physical facilities at the School of Graduate Studies

	Facility	Numbers	Capacity
1.	Meeting rooms	3	105 persons
2.	Viva rooms	6	10 persons
3.	Seminar room	1	40 persons

Table 6.2: List of Physical facilities at the faculties (Refer to Faculties/Institute)

	Facility	Numbers	Capacity
1.	Laboratories/ workshops		
2.	Studios		
3.	Meeting rooms		
4.	Computer laboratories		
5.	Library/resource centre		
6.	Conference halls		
7.	Workplace for students		
8.	Hangar		
9.	Farm facilities		
10.	Forest Reserves		
11.	Marine Science Centre		
12.	Discussion Rooms		
13.	Pilot Plant		
14.	Industrial Kitchen		
15.	Learning and support centre		
16.	Banquet Hall		
17.	Student Centre		
18.	Edu-tourism		
19.	Equine Centre		
20.	Veterinary Hospital		
21.	Golf Course		
22.	GMP Facilities		
23.	Animal House		
24.	FTU		
25.	Electron microscope		
26.	Green House		
27.	Super Critical Fluid Centre		

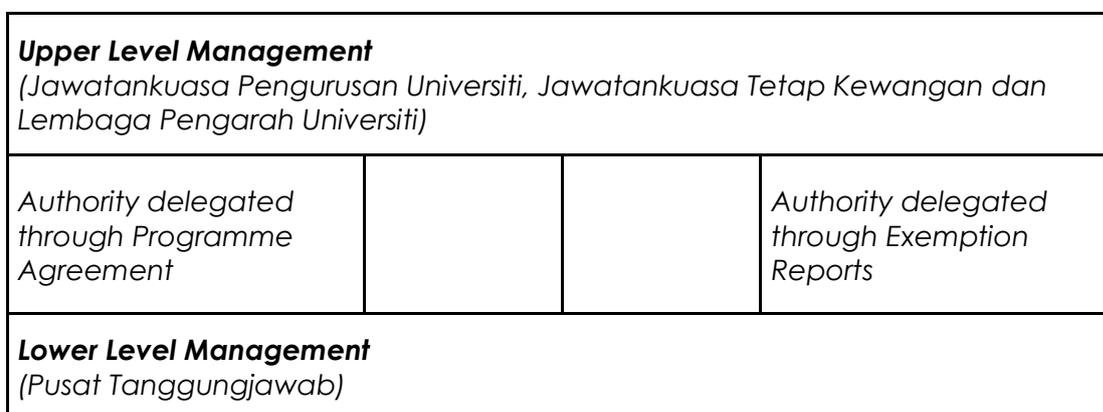


Figure 6.5.3 Empowerment and Accountability between Levels of Management

Figure 6.5.2 (ii)

Facilities	2007 (RM)	2008 (RM)	2009 (RM)
GRF, GRA & SGRA Conference ⁹	10,000,000	17,000,000	24,936,000
Conferences School of Graduate Studies	-	-	-
Post Doctoral, Research Fellow & Consultant Fellow	2,000,000	2,000,000	4,000,000
Publication Fees	300,000	-	1,000,000
Patents' Charges	-	1,000,000	2,000,000
Writing Workshops	2,550,000	340,000	500,000
Purchasing (shared equipments)	4,160,000	17,600,000	13,864,000
Networking	1,500,000	-	2,000,000
Incentives	500,000	500,000	1,500,000
Others	28,990,000	24,060,000	41,010,410
Total	50,000,000	62,500,000	90,810,410

AREA 7: PROGRAMME MONITORING AND REVIEW

The HEP has a responsibility to ensure that the quality and standards of its research programmes are continually maintained and are subject to monitoring, evaluation and review. The monitoring of research programmes provides a mechanism to improve the programme delivery, in order to meet the aims and objectives of the programme and to ensure candidates' successful completion of the degree. It is important to be able to identify issues or concerns that are relevant to the programme and to take appropriate actions to remedy these.

7.1 Monitoring and Review

7.1.1		Benchmarked Standard
No	Details	Answer
7.1.1 (i)	Each programme at the HEP must be monitored by the department, as authorised by the Senate	All Graduate Programmes are monitored at the faculty, the SGS, and the Deputy Vice Chancellor (Academic) through various committees following the various ISO 9001 (Sistem Pengurusan Kualiti (QMS) MS ISO 9001:2008 UPM) procedures for graduate studies. Every programme must be approved by the University Senate.
7.1.1 (ii)	The HEP must have a mechanism to manage and coordinate programmes so as to meet all requirements, especially with regard to quality assurance. The department, in turn, must monitor the running of the programmes in the interest of the stakeholders.	The University Senate is represented in the various graduate committees such as the JKPSU to ensure the running of the programme according to what is prescribed by the Senate. The JKPSU is represented by the Dean of Faculties, Director of Institutes and Senate representatives and chaired by the representatives of the Vice Chancellor to ensure the running of the programme is in the interest of the stakeholders. The secretariat of the JKPSU is the Dean of the SGS. The functions of the JKPSU are:
7.1.1 (iii)	For monitoring and evaluation, the following data must be analysed to enhance the quality of the programme: 1. Candidate performance	The candidate must file various performance reports as required by the graduate studies procedure. These include proposal evaluation, research progress report every semester (GS11), CGPA for student taking course work, comprehensive examination (CE) result

	<p>2. Achievement of programme objectives</p> <p>3. Feedback from candidates</p>	<p>for PhD student, thesis examination report and viva examination report by Chairman of the Examination Committee. In addition the ability of students to write for publication in journals, present papers in conferences and filing for patents are also considered in the evaluation.</p> <p>The achievement of programme objectives is evaluated base on the results and reports as stipulated above.</p> <p>UPM is in the process of implementing the Supervisory's Evaluation Form available in the iGIMS and in the progress report submitted by the candidates at the end of semester.</p>
7.1.1 (iv)	The HEP must continually monitor the overall performance of the programme, including, for example, completion rates and the ratio of candidates who graduate on time.	The graduate programmes are continuously monitored by programme assessors, external thesis examiners to ensure candidates graduate on time. All programmes must be reviewed every five years. (refer to SPK: UPM/PU/S/P003)
7.1.1 (v)	Feedback from external assessors should be used to enhance the quality of the programme.	The response to the external assessor reports are provided by the Department and tabled at the University Senate, and actions are taken whenever appropriate.
7.1.1 (vi)	Research must be conducted independently and in compliance with a set of programme guidelines, ethics and code of conduct, including, for example, guidelines on plagiarism.	Research is conducted independently by the candidate with close supervision by the Supervisory Committee, according to the guidelines provided by the SGS in the Handbook of Graduate Studies. All thesis submission must be accompanied by a similarity index report.
7.1.1 (vii)	Any changes or new proposals for the procedures and processes for the research programme must be approved by the HEP.	All changes or new procedures are approved by the University Senate.
7.1.1 (viii)	The HEP must ensure the attainment of the learning outcomes as stated in Area 1 of this document.	<p>At the end of the programme, graduates must be able to:</p> <ol style="list-style-type: none"> 1. Synthesise knowledge in the relevant field; 2. Adapt practical skills leading towards innovative ideas in the relevant field; 3. Provide professional services to society in the relevant field; 4. Conduct research independently and adhere to the legal, ethical

		<p>and professional code of practice in the relevant field;</p> <ol style="list-style-type: none"> 5. Communicate and work effectively with peers, scholarly communities and stakeholders, while displaying leadership qualities; 6. Appraise problems in the relevant field critically using scientific skills; and 7. Integrate information to develop lifelong learning in the relevant field. <p>Note: For the industrial PhD programme, 'in the relevant field' should be read as 'in the relevant industry'.</p>
7.1.1 (ix)	The HEP must ensure the attainment of graduate attributes as listed in the Malaysian Qualifications Framework (MQF).	HEP ensures the attainment of graduate attributes through the assessment of coursework, research, examinations, research proposals, seminars, conferences and workshops, colloquiums, journal publications, vivas and student mobility programmes.
7.1.1 (x)	The HEP must establish review committee(s) with defined terms of reference	The University Senate has established Graduate Studies Committee (JKPSU) which responsible for all graduate studies activities from admission to graduation as well as development and review of graduate programmes. Senate also established Graduate Studies Review Committee which responsible for reviewing student termination appeals. Other committees also established at SGS and faculty/institute levels such as Curriculum Subcommittee, Examiners and Supervisory Committee Appointment Subcommittee, Thesis Title Checking Subcommittee and Graduate Studies Committee at the faculties/Institutes.
7.1.1 (xi)	The HEP must review and analyse the overall attainment of the programme objectives.	Customer Satisfaction Survey.

No	Details	Answer
7.1.1 (xii)	For the industrial doctoral programme, there must be an MOU or a MOA existing between the HEP and the industry partner on intellectual property rights.	For all industrial doctoral programmes, MOUs and MOAs are established with industry partners that cover issues of the IPR. (Refer to SGS)

7.1.2		Enhanced Standards
No	Details	Answer
7.1.2 (i)	The HEP should monitor research output such as publications, copyright, prototypes, patents and commercialization.	UPM monitors research outputs through MyRA instrument, and the submission or lodging of the information is done by academic staff and researchers through the KMPortal.
7.1.2 (ii)	Post-graduation performance should be monitored through longitudinal and/or tracer studies.	UPM does not specifically monitor post-graduate performance after graduation.

7.2 Stakeholder Involvement

7.2.1		Benchmarked Standard
No	Details	Answer
7.2.1 (i)	Stakeholders must be consulted in the programme review process	<p>Input from stakeholders are obtained through various ways:</p> <ul style="list-style-type: none"> • Ministry of Higher Education – graduate studies programme in UPM is established and conducted base on MoHE requirement and reviewed as new policies are introduced. • Students - input from students are obtained from ISO survey form and informal feedback through discussion and supervisory committee channel. Students can also give feedback through the Peer Support Group established by SGS. • Lecturers – input from lecturers is obtained from various means such as departmental and faculty meetings, curriculum committees meeting, feedback to head departments and deans, direct feedback to the SGS dean,

		<p>committee meetings at SGS and higher levels.</p> <ul style="list-style-type: none"> • External examiners – their input are obtained through suggestion during viva examination and comment in their examination reports. • Alumni – SGS established Alumni Support Group which among others can be used to provide feedback for the conduct and improvement of the graduate programmes.
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7.2.2	Enhanced Standards	
No	Details	Answer
7.2.2 (i)	The HEP should establish a Programme Advisory Panel, which may include representatives from professional bodies.	The University has a Faculty Advisory Panel for the undergraduate programmes. However, the development of the post graduate programme by coursework is monitored by Programme Evaluator Committee.

AREA 8: GOVERNANCE, LEADERSHIP AND ADMINISTRATION

At the departmental level, the leadership provides clear direction, builds relationships based on collegiality and transparency, manages finances and resources with accountability and fosters partnerships with stakeholders in educational delivery, research and consultancy in relation to pursuance of excellence in standard of conducting postgraduate research programmes.

8.1 Governance

8.1.1		Benchmarked Standards
No	Details	Answer
8.1.1 (i)	The HEP must clarify its governance structures and functions, the relationships with internal and external stakeholders, and their impact on the programme. These structures, functions and relationships must be documented and disseminated to all parties involved.	<p>The Board of Directors (BoD) is the highest executive body responsible for making university policies except in academic matters, which lies with the University Senate. The University Management Committee (UMC) is the administrative body responsible for implementing policies made by the BoD and Senate. The BoD comprises of internal & external stakeholders. The BoD has the authority to recommend areas for improvement of the programmes. This will ensure that the programmes are balanced, relevant and current.</p> <p>Information on these bodies, their functions and the relationships among them is made available through the University website and selected official printed documents.</p>
8.1.1 (ii)	The HEP must state clearly its academic authority.	<p>The Senate acts as the highest academic body of the University and is responsible for the general direction of instruction, research and examination, and the conferral of degrees, diplomas, certificates and other academic distinctions.</p> <p>The Senate consists of the Vice Chancellor as the Chairman, Deputy Vice Chancellors, all Deans of Faculties and Schools, all Directors of Institutes, the Directors of the Centre for External Education and Centre of Foundation Studies for Agricultural Science, and not more than 20 professors appointed by the Vice Chancellor. The Registrar, Bursar, Chief Librarian and Legal Advisor, Director of the Centre for Academic</p>

		<p>Development and Director of the Sports Academy are also in the Senate as ex-officio members.</p> <p>Decisions and recommendations made by the Senate are tabled at the BoD meetings. Faculties, schools, institutes, centres and academies are answerable to the Senate in all academic matters.</p>
8.1.1 (iii)	The HEP committees must be actively involved in policy development	Post graduate study committees (JKPS) are established at various levels at faculties, institutes and university. These committees meet regularly to make recommendations and decisions. The final approval of programmes of studies is done at the senate.
8.1.1 (iv)	The HEP must establish mechanisms to ensure functional integration and comparability of research quality for programmes conducted in campuses that are geographically separated.	The JKPS at university level and senate include representatives from all campuses (Serdang and Bintulu) to ensure functional integration and comparability of research quality for programmes conducted in campuses that are geographically separated.
8.1.1 (v)	The policies and practices of the department must be in tandem with the purpose of the HEP.	<p>UPM's statement of purpose is in the form of its vision statement, that is, to be a university of international repute. All UPM policies are formulated and refined to be in line with this purpose.</p> <p>Six goals have been established in order to realise this vision or purpose. The Strategic Plan 2011-2013 (Rev. 2011) was drawn up to outline the strategies and actions to achieve each goal. The achievement of each objective is measured through appropriate KPIs.</p> <p>At the department level, there is a dedicated Committee which recommends policies regarding the post graduate studies matters. The JKPS at university level comprises members of faculties and institutes, selected Senate members as well as the SGS Management Committee. The chair of this committee is the Deputy Vice Chancellor (Academic and International).</p> <p>Academic matters are the jurisdiction of the Senate.</p> <p>SGS's policies and practices are guided by university's vision and mission.</p>

8.1.2		Enhanced Standards
No	Details	Answer
8.1.2 (i)	The HEP should have a comprehensive, interconnected and institutionalised committee system responsible for programmes, taking into consideration, among other points, internal and external consultation, feedback, current issues, networking and collaboration	<p>The highest authority in the University responsible for academic programmes is the Senate. When reviewing or considering new academic programmes, the Senate receives documents from various faculties and institutes after they have been scrutinised by the University Curriculum Committee. All proposals for new academic programmes must include market needs analysis. When making any decisions, the Senate also takes into account various external policies from relevant agencies.</p> <p>The committee system responsible for academic programmes fulfils the requirements of Section 7.1.2. of SRP (pg: 121). The utilisation of consultation and feedback for the improvement of academic programmes also fulfils the requirements as outlined in Section 2.4.2. of SRP (pg:44)</p>
8.1.2 (ii)	The governance principles should reflect the representation and participation of academic staff, candidates and other stakeholders.	<p>BoD includes representatives from MOHE, and internal and external stakeholders of the University to deliberate and decide on policy matters relating to the future development of the programmes of studies for the university.</p> <p>JKPS consists of management members of faculties, institutes and senate members. This committee discusses academic matters including those with financial implications.</p> <p>The candidates for the research programmes are given provisions to choose members of the supervisory committee from the academia and industries. The members are officially appointed by JKPSU once they are finalized by candidates.</p>

8.2 Programme Leadership

8.2.1		Benchmarked Standards
No	Details	Answer
8.2.1 (i)	The HEP must clearly state the criteria for the structure, appointment, roles and responsibilities of the leadership of the programme	<p>The structure of the leadership is as follows in order of authority: Vice-Chancellor, Senate, TNCA, JKPS/SGS, Dean /Director, program coordinator, and supervisory committee.</p> <p>The appointment of academic leaders is based on the following processes as outlined in the Universities and University Colleges Act 1971:</p> <ul style="list-style-type: none"> • The Vice Chancellor is appointed by the Minister of Higher Education upon the recommendation of the Vice Chancellor Search Committee. The Vice Chancellor reports to the Minister of Higher Education • The Vice Chancellor chairs the Senate. Members of the Senate comprises Deans, Directors and professors (nominated by Faculties and appointed by the Vice Chancellor). • Deputy Vice Chancellors are appointed by the Minister of Higher Education taking into account the recommendations of a search committee and selection committee. The Deputy Vice Chancellor reports to the Vice Chancellor. • Deans and Directors are appointed after discussion between the Vice Chancellor and Deputy Vice Chancellors. They report to the Vice Chancellor. • Deputy Deans, Deputy Directors and Heads of Department/Laboratory are appointed after discussion between the Vice Chancellor and the respective Deans or Directors. They report to the Deans or Directors. • Coordinators of programmes may be appointed by the dean/director. The coordinators report

		<p>to the Deputy Deans/Deputy Director for Research and Postgraduate Studies.</p> <p>The selection criteria for candidates for the post of Deans and Directors may include the following:</p> <ul style="list-style-type: none"> • The candidates must have an excellent academic standing in their areas of expertise and are recognised by their academic peers for their contribution toward advancement of knowledge via publication of books, journal articles or other forms of publications • The candidates should also possess managerial and leadership skills that would enable them to steer and lead their faculties/institutes/ academic centres towards achieving the goals of the University • The candidates must understand and be able to realise the vision, mission and objectives of the strategic plans of the University and the faculties/institutes/ academic centres. <p>The University Senate is the highest academic body which formulates and endorses university policies regarding academic matters.</p> <p>The University Management Committee (UMC) is the administrative body responsible for implementing policies made by the Senate.</p> <p>Information on these bodies, their functions and the relationships among them is made available through the University website and selected official printed documents.</p> <p>All Deans and Directors are senate members enabling consultative decision making on policies. This allows for a two-way communication of policies which greatly facilitates implementation.</p> <p>Programme coordinators assist the Dean in ensuring that the administration of programmes run smoothly.</p>
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		The supervisory committee facilitates and monitors the academic progress and development of students (for details, Refer to (Graduate Studies) Rules 2003 (Revision 2012-13)
8.2.1 (ii)	The leadership of the programme must be held by those with appropriate qualifications and research experience.	Deans, Directors of research institutes, programme coordinators and members of supervisory committees are selected from among academic members of the relevant departments or faculty. They may be the Heads of Department/Laboratory or specially appointed programme coordinators who are competent in their field of specialisation. The procedures and criteria for their selection, appointment and evaluation are similar to those for academic leadership as described in 8.2.1 (i).
8.2.1 (iii)	The HEP must establish channels for communication between departments and leaders in matters related to human resource management, graduate candidate management, allocation of research resources and decision making.	The processes for communication between departments and leaders on matters of human resource management, graduate candidate management, allocation of research resources and decision making are done through post graduate committees (JKPS) established at various levels at the various departments/ laboratories, faculties/ institutes and university levels. These committees meet regularly to make recommendation and decisions. Decisions that relate to regarding human resources are conveyed by the head of departments to the faculty for consideration. Subsequently the Faculty's decisions are conveyed by the Deans to the university management committee for their consideration. Similarly, the decisions regarding academic matters are forwarded by the Deans to the Senate via JKPSU.

8.2.2	Enhanced Standards	
No	Details	Answer
8.2.2 (i)	The HEP should ensure that the leadership takes on the responsibility of creating a research environment that generates innovation and creativity.	<p>To instill a culture of innovation and creativity, the University under the purview of the established office of the DVC (RI) establishes and supports the ecosystem for research and innovation. This is done through the establishment of the RMC, PSP and other support services related to teaching and learning (T&L) and research and development (R&D). The RMC oversees generation of grants, their disbursements and monitoring of progress including financial support and incentives for postgraduate programmes through various grant schemes such as GRF, SGRF, RUGS etc.</p> <p>The PSP oversees promotion, IP protection and archival of selected academic outputs obtained through teaching & learning and research & development. The DVC(RI) office oversees the provision of services and facilities that support T&L and R&D including infrastructure development (PPPA), library resources (Library), publications (Penerbit UPM), IT/ICT infrastructure (iDEC), etc.</p> <p>The DVCRI office also collaborate with the Office of DVC(AA) through the SGS for appointment of GRA/GRF and disbursement of research grants to students.</p> <p>The SGS is also responsible for planning annual training programmes related to graduate studies such as the Putra Sarjana programme that aims to inculcate a research and innovation culture among students.</p>

8.3 Programme Administration

8.3.1		Benchmarked Standards
No	Details	Answer
8.3.1 (i)	The administrative staff of the department must be qualified, appropriate and adequate to support the implementation of the programme and related activities.	<p>Administrative Staff Number</p> <p>The Registrar's Office, in particular the Human Resource Management Department, determines the number of administrative staff needed based on Staff Placement Policy (<i>Polisi Penempatan Staf</i>) endorsed by the University Management Committee. The criteria for determining the number of staff are as follows:</p> <p><u>Administrative Positions</u></p> <p>The number of Administrative Staff, such as Administrative Officers, Clerks and Personal Assistant required are based on the following considerations:</p> <ol style="list-style-type: none"> i. Number of postgraduate and undergraduate programmes ii. Number of postgraduate and undergraduate students iii. Job complexity iv. Related functions and justification <p>The number of administrative positions is based on the following guidelines:</p> <p><u>Placement of Administrative positions in a faculty</u></p> <ol style="list-style-type: none"> i. 1 Administrative Officer (N41) per faculty which has 1 degree/diploma academic programme ii. 1 Administrative Officer (N48) and 1 Administrative Officer (N41) per faculty which has 2 degree/diploma academic programmes iii. 1 Administrative Officer (N48) and 2 Administrative Officers (N41) per faculty which has 4 to 8 degree/diploma academic programmes, or

		<p>iv. 1 Administrative Officer (N48) and 3 Administrative Officers (N41) per faculty which has more than 8 degree/diploma academic programmes</p> <p><u>Administrative positions in an institute</u></p> <p>i. 1 Administrative Officer (N41) per institute (larger institutes can be assigned an N48 officer in place of an N41 officer)</p> <p>Science and Technical Positions</p> <p>The number of Science and Technical Staff, such as Science Officers, Assistant Science Officers, Engineers and Technicians assigned to a Faculty/Institute are based on the following considerations:</p> <ul style="list-style-type: none"> i. Number of teaching laboratories ii. Number of research laboratories iii. Number of technical laboratories iv. Number of computer laboratories <p>The placement of Science and Technical personnel follows the following guidelines:</p> <p><u>Science and Technical positions in a faculty</u></p> <ul style="list-style-type: none"> i. 1 Assistant Information Technology Officer (F29) per faculty ii. 1 Technician (J17)/1 Assistant Science Officer (C27) for each lab in the faculty <p><u>Science and Technical positions in an institute</u></p> <p>The example of ratio/formula for Science and Technical personnel for an institute is:</p> <ul style="list-style-type: none"> i. 1 Assistant Information Technology Officer (F29) per institute
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		<p>ii. 1 Technician (J17) per institute</p> <p>General Staff Positions</p> <p>The number of General Staff, such as drivers and general workers, is based on criteria such as work related functions.</p> <p>The number of Science and Technical positions is based on the following guidelines:</p> <p><u>General Staff positions in a faculty</u></p> <p>i. 2 General Assistants (N1) for the Dean's office per faculty ii. 1 General Assistant (N1) per lab</p> <p><u>General Staff positions in an institute</u></p> <p>i. 1 General Assistant (N1) per institute</p> <p>The Registrar's Office is planning to enhance its Staff Placement Policy based on an Inspectorate (Naziran) exercise that was carried out throughout 2009. The new Staff Placement Policy will be endorsed and be implemented soon.</p> <p>Recruitment Process</p> <p>The process for the recruitment/appointment of staff at University Putra Malaysia is as follows:</p> <p>(a) Administrative or Cost Centres have to identify the number and types of staff required, and make requests to the Registrar's Office.</p> <p>(b) The Registrar's Office, in particular the Human Resource Management Division, assesses the requests.</p> <p>(c) The Registrar makes an application to the Ministry of Higher Education and Public Service Department (PSD)</p>
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		<p>(<i>Jabatan Perkhidmatan Awam</i>) for the required posts.</p> <p>(d) Upon obtaining approval from the MoHE and PSD, the Registrar obtains warrants for the new positions from the Malaysian government Treasury.</p> <p>(e) The Registrar advertises the vacant positions through via mainstream newspapers, the UPM website and internal circulars.</p> <p>(f) Applicants apply using the Online Job Application System (<i>Sistem Permohonan Jawatan Online</i>).</p> <p>(g) Applicants are then screened based on criteria stipulated by the Public Services Department and Universiti Putra Malaysia.</p> <p>(h) Shortlisted applicants are called for interviews.</p> <p>(i) Applicants are informed of the results of the interview via postal mail.</p> <p><u>Terms and Conditions of Service</u></p> <p>Terms and conditions of service for all appointments are based on the Service Scheme (<i>Skim Perkhidmatan</i>) in line with Government regulations on Public Officers as specified in the Appointment, Promotion and Termination of Service document (<i>Buku Perlantikan, Kenaikan Pangkat dan Penamatan Perkhidmatan</i>), the Public Service Department Service Circular (<i>Pekeliling Jabatan Perkhidmatan Awam</i>) and the UPM Service Guide Book (<i>Buku Panduan Perkhidmatan</i>).</p> <p>The terms and conditions of service include:</p> <ul style="list-style-type: none"> • Title of post and status of appointment • Name of scheme of service • Particulars of salary and allowances • Medical benefits • Leave benefits <p>Further details are provided in the documents mentioned earlier.</p>
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8.3.1 (ii)	The procedures and related documents must be made available for the administration of the programme	<p>The University implements the QMS to ensure that the work culture, administration, management and governance of the University are effective and efficient. The implementation of the quality assurance system has had a positive impact on the efficiency and effectiveness of the delivery system in UPM. The University has received several national awards, including the coveted Prime Minister's Financial Management Quality Award, in 2007.</p> <p>Quality assurance activities at UPM include:</p> <ul style="list-style-type: none"> • Auditing Auditing is carried out at least twice a year to ensure compliance of work processes with procedures set out in the QMS. Corrective and preventive measures are taken in response to the auditors' reports. • Customer Satisfaction Surveys Customer Satisfaction Surveys are conducted at least twice a year to gauge customer satisfaction and take necessary steps for continuous improvement of services. • Customer Complaints Customer complaints are attended to and the necessary corrective actions are taken. • Client Charter Services delivered are in accordance with the Client Charter in order to assure customer satisfaction and enhance quality of service. • Management Review Meetings Meetings are conducted at least once a year to ensure that quality objectives are met.
8.3.1 (iii)	The department must conduct regular performance review of all programme administration.	<p>The performance review of the administration of programmes follow (SPK, UPM and) on the following matters:</p> <ul style="list-style-type: none"> • Admission of candidates • Nomination of supervisory committee • Commencement of study • Study progress • Examination • Graduation

8.3.2		Enhanced Standards
No	Details	Answer
8.3.2 (i)	The HEP should have training schemes for management and administrative staff to meet needs of the programme, for example, risk management, maintenance of specialised equipment and technical skills	The postgraduate programme at UPM will not be effectively managed and implemented if the administrative and management staff are not well trained and competent. As such, training is often conducted by the In-Service Training Section, Human Resource Development Division of the Registrar's office. Details of these courses conducted between 2008 to 2010 are listed in the book <i>Program Pembangunan Professional Staf UPM</i> .

8.4 Academic and Research Records

8.4.1		Benchmarked Standards
No	Details	Answer
8.4.1 (i)	Departmental policies and practices concerning the nature and security of records related to the programme must be consistent with that of the HEP and fund provider and must also comply with relevant rules and regulations.	<p>In line with the QMS of the University, a hard copy as well as an electronic copy of a student's records are kept to ensure that the records are secure and managed efficiently. The hardcopy file contains a record of the student's profile as well as a copy of the student's admission letter, registration slips, academic transcripts and other important documents.</p> <p>At the postgraduate level, all records including the student's profile, application for admission, course registration, appointment of supervisory committee, progress reports and examination results are kept in an online database called the Internet-based Graduate Information Management System (i-GIMS). Copies of these records are also kept as hardcopy in files at the School of Graduate Studies.</p> <p>The disposal of these records in the various faculties are done when necessary according to QMS procedures for control of records.</p>

8.4.1 (ii)	The department must implement policies that have been established by the HEP on the rights of individual privacy and confidentiality of records	The University ensures the security and confidentiality of records by allowing only individual account holders and authorized staff to access them. Maintenance of the electronic database is performed periodically by authorised personnel at the InfoComm Development Centre (iDEC).
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8.4.2 Enhanced Standards		
No	Details	Answer
8.4.2 (i)	The department should continually review policies on security and efficient retrieval of records, including increased use of electronic technology and security systems.	Based on the QMS implemented by all cost centres, policies on the security of records are reviewed during Management Review Meetings. These meetings are held at least once a year. Plans for continuous improvement are also discussed at these meetings.

AREA 9: CONTINUAL QUALITY IMPROVEMENT

The HEP must ensure that all masters and doctoral degree graduates are world class researchers and knowledge workers equipped with the capability to provide solutions to future problems and issues. HEPs are therefore responsible for ensuring the quality of their postgraduate programmes. As such, HEPs must engage in continual quality improvements of their postgraduate programmes within a dynamic and evolving education environment.

9.1 Quality Improvement

9.1.1		Benchmarked Standards
No	Details	Answer
9.1.1 (i)	The HEP must establish a policy for continual quality improvement.	Universiti Putra Malaysia has in place a Quality Management System (QMS) which, through its Internal Quality Assurance (IQA) activities, serves to ensure that the University continually monitors and improves itself, particularly in terms of the alignment of its educational goals with its vision and mission, and in terms of the achievement of those goals.
9.1.1 (ii)	The department must have a strategic plan in alignment with the HEP goals for the year and mechanisms to achieve the targets.	UPM has outlined its strategic plan for 2011 – 2013 with 6 goals to achieve the desired targets. In order to monitor and achieve the targets, MS ISO 9001:2008 is used.
9.1.1 (iii)	The department must engage staff for continual quality improvement.	Input from staff are obtained via departmental meetings and tabled at management and faculty meetings. Recommendations are brought to the SGS and Senate for approval and endorsement for implementation throughout the university.
9.1.1 (iv)	The department must engage internal and external stakeholders in activities that can contribute towards the continual improvement of the programme.	Through MS ISO 9001:2008, input from internal and external stakeholders are also sought for continual improvement of the programmes.

9.1.2		Enhanced Standards
No	Details	Answer
9.1.2 (i)	The HEP should have a quality unit to facilitate the compliance of stated policies, processes and procedures.	UPM adopts MS ISO 9001: 2008 and has a dedicated Quality Assurance Division at the Registrar's office to ensure compliance to stated policies, processes and procedures.
9.1.2 (ii)	The HEP should have a rewards-and-recognition system to promote a culture of quality.	UPM has put in place a reward-and-recognition system which includes a Graduate Research Fellowship (GRF) scheme, incentives, grants, attachments and funding to attend conferences.
9.1.2 (iii)	The HEP should have periodical reviews for continual quality improvement of the programme.	Reviews are discussed at JKPS based on the need for continual quality improvement of the programme.