

POSTGRADUATE PROGRAMME
FACULTY OF CIVIL ENGINEERING



GUIDELINES FOR
POSTGRADUATE PROGRAMME

MASTER (coursework)
MASTER (research)
Ph.D

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First Edition

GUIDELINES FOR POSTGRADUTE PROGRAMME

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Any queries and amendment to this guideline should be referred to the
Academic Board of the Faculty

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Preface

This document has been prepared for students and candidates who undertaking postgraduate programme comprises of Master of Science in Civil Engineering by coursework, Master by research and Doctorate of Philosophy (Ph.D) at Faculty Civil Engineering, Universiti Teknologi MARA Shah Alam, Selangor.

This manual is prepared with an objective to guide postgraduate students pursuing postgraduate programme by coursework in preparing and submitting the dissertation as a partial of the programme requirement and to guide postgraduate candidates who pursuing Master and Ph.D by research in preparing and submitting the thesis for examination and vice-voca. This manual can also be use as guideline to the supervisors, internal and external examiners, supporting and management staff at this faculty.

This manual comprises of forms, procedures and flow cart of process towards a submission of dissertation and thesis for examination. To facilitate postgraduate students and candidates, supervisors and examiners as well, a set of forms are attached. Forms ranging from selection of topic and supervisor, proposing research title and assessment forms for examiners.

Finally, I would like to thank to the former Postgraduate Coordinator Assoc. Prof. Dr. Hamidah Mohd. Saman and current coordinator Dr Nor Hayati Abdul Hamid for their initiative and contributors on their effort in making this manual guideline a success one to be implemented in this faculty.

ASSOC. PROF. IR. DR. HJH. ZAINAB MOHAMED

Dean

Faculty of Civil Engineering

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CHAPTER ONE : POSTGRADUTE PROGRAMME

1.1 INTRODUCTION

This manual is prepared to guide the postgraduate candidates at Faculty of Civil Engineering in preparing Master by coursework's dissertation and thesis for Master and PhD for research. Throughout this manual, the word "**dissertation**" refers to the final report submitted to Faculty of Civil Engineering by the students who undertaking coursework based M.Sc programmes. The word "**thesis**" refers to reports submitted to Institute of Postgraduate Studies (IPSiS) by students who are undertaking research work based M.Sc or Ph.D programmes at Faculty of Civil Engineering.

This manual must be read in conjunction with the latest edition of the Academic Regulations for Graduate Studies (Peraturan Akademik Pengajian Siswazah) which take precedence of this manual. The academic regulation deals with issues related to:

- a) Process and procedures for selection of topic and nomination of supervisors for candidates by coursework.
- b) Process and procedures for submission of dissertation for viva-Voce at faculty level.
- c) Process and procedures for submission defense of thesis proposals and submission of thesis.
- d) Process and procedures for submission of progress reports for postgraduate candidates by research.
- e) Process and procedures for submission of thesis for viva for candidates by research at Institute of Postgraduate Studies.
- f) Criteria and role of supervisors.

The submission of dissertation is partial requirements for awarding Master of Science in Civil Engineering (M.Sc) (by coursework). On the other hand, the submission of thesis is the fulfillment requirement for awarding of Master of Science (M.Sc) in Civil Engineering (by research) or Doctor of Philosophy (Ph.D) in Civil Engineering.

1.2 MASTER PROGRAMME (BY COURSEWORK)

Faculty of Civil Engineering offers five(5) Master's Degree programmes (M.Sc by coursework) as listed below :

- i. M.Sc in Civil Engineering (Structures) (EC 771)
- ii. M.Sc in Civil Engineering (Geotechnique) (EC 772)
- iii. M.Sc in Civil Engineering (Water Resources) (EC 773)
- iv. M.Sc in Civil Engineering (Environmental Engineering) (EC 774)
- v. M.Sc in Civil Engineering (Construction) (EC 775)

These programmes cater for full-time and part-time students with total of 42 credit hours to be completed within the specific period of times.

The curriculum structure for M.Sc in Civil Engineering (Structures) is tabulated in Table 1.1, M.Sc in Civil Engineering (Geotechnique) is shown in Table 1.2, M.Sc in Civil Engineering (Water Resources) and M.Sc in Civil Engineering (Environmental Engineering) depict in Table 1.3 and Table 1.4, respectively. Finally, Table 1.5 shows the curriculum structure for M.Sc in Civil Engineering (Construction).

Table 1.1 : M.Sc in Civil Engineering (Structures)(EC 771)

Semester	Subjects	Code	Credit Hours	Component
1	1. Academic English for Graduate Studies	BEL 600	UD	University Compulsory subject
	2. Numerical Analysis and Optimization	ECS 713	3.0	Faculty Core subject
	3. Environmental Management	ECW 711	3.0	Faculty Core subject
	4. Advanced Mechanics of Materials	ECS 715	3.0	Programme Core subject
	5. Advanced Finite Element Methods	ECS 712	3.0	Programme Core subject
2	1. Bridge Engineering	ECS 722	3.0	Programme Core subject
	2. Foundation Engineering	ECG 714	3.0	Programme Core subject
	3. Analysis and Design of Tall Structures	ECS 728	3.0	Programme Core subject
	Choose only one(1) of the elective subjects:			
	i) Structural Dynamics and Earthquake Engineering	ECS 723	3.0	Elective subject
	ii) Soil-Structure Interaction	ECG 733	3.0	Elective subject
	iii) Timber Engineering	ECS 735	3.0	Elective subject
iv) Offshore Structural Engineering	ECS 733	3.0	Elective subject	
3	1. Dissertation	ECS 737	12.0	Programme Core subject
	Choose two (2) from the elective subjects:			
	i) Structural Dynamics and Earthquake Engineering	ECS 723	3.0	Elective subject
	ii) Soil-Structure Interaction	ECG 733	3.0	Elective Subject
	iii) Timber Engineering	ECS 735	3.0	Elective Subject
iv) Offshore Structural Engineering	ECS 733	3.0	Elective Subject	
v) Any elective subjects from other disciplines (approved by faculty)		3.0	Elective Subject	
		TOTAL	42	

Table 1.2 : M.Sc in Civil Engineering (Geotechnique)(EC 772)

Semester	Subjects	Code	Credit Hours	Component
1	1. Academic English for Graduate Studies	BEL 600	UD	University Compulsory subject
	2. Numerical Analysis and Optimization	ECS 713	3.0	Faculty Core subject
	3. Environmental Management	ECW 711	3.0	Faculty Core subject
	4. Foundation Engineering	ECG 714	3.0	Programme Core subject
	5. Site Investigation	ECG 716	3.0	Programme Core subject
2	1. Rock Engineering	ECG 726	3.0	Programme Core subject
	2. Earth Retaining Structure	ECG 723	3.0	Programme Core subject
	3. Slope Engineering	ECG 724	3.0	Programme Core subject
	Choose only one(1) of the elective subjects:			
	i) Ground Improvement	ECG 734	3.0	Elective subject
	ii) Critical State Soil Mechanics	ECG 732	3.0	Elective subject
	iii) Environmental Geotechnique	ECG 739	3.0	Elective subject
iv) File Foundation	ECG 736	3.0	Elective subject	
3	1. Dissertation	ECS 737	12.0	Programme Core subject
	Choose two (2) from the elective subjects:			
	i) Ground Improvement	ECG 734	3.0	Elective subject
	ii) Critical State Soil Mechanics	ECG 732	3.0	Elective Subject
	iii) Environmental Geotechnique	ECG 739	3.0	Elective Subject
	iv) File Foundation	ECG 736	3.0	Elective Subject
v) Any elective subjects from other disciplines (approved by faculty)		3.0	Elective Subject	
		TOTAL	42	

Table 1.3 : M.Sc in Civil Engineering (Water Resources)(EC 773)

Semester	Subjects	Code	Credit Hours	Component
1	1. Academic English for Graduate Studies	BEL 600	UD	University Compulsory subject
	2. Numerical Analysis and Optimization	ECS 713	3.0	Faculty Core subject
	3. Environmental Management	ECW 711	3.0	Faculty Core subject
	4. Water Resources Planning and Management	ECW 718	3.0	Programme Core subject
	5. Advanced Water Supply	ECW 714	3.0	Programme Core subject
2	1. Flood Control	ECW 727	3.0	Programme Core subject
	2. Hydraulic Structures	ECW 728	3.0	Programme Core subject
	3. Erosion and Sedimentation	ECW 726	3.0	Programme Core subject
	Choose only one(1) of the elective subjects:			
	i) Groundwater Engineering	ECW 733	3.0	Elective subject
	ii) Coastal Engineering	ECW 734	3.0	Elective subject
	iii) Soil Conservation Engineering	ECW 724	3.0	Elective subject
	iv) Computational Fluid Dynamics	ECW 723	3.0	Elective subject
3	1. Dissertation	ECS 737	12.0	Programme Core subject
	Choose two (2) from the elective subjects:			
	i) Groundwater Engineering	ECW 733	3.0	Elective subject
	ii) Coastal Engineering	ECW 734	3.0	Elective Subject
	iii) Soil Conservation Engineering	ECW 724	3.0	Elective Subject
	iv) Computational Fluid Dynamics	ECW 723	3.0	Elective Subject
v) Any elective subjects from other disciplines (approved by faculty)		3.0	Elective Subject	
		TOTAL	42	

Table 1.4: M.Sc in Civil Engineering (Environmental Engineering) (EC 774)

Semester	Subjects	Code	Credit Hours	Component
1	1. Academic English for Graduate Studies	BEL 600	UD	University Compulsory subject
	2. Numerical Analysis and Optimization	ECS 713	3.0	Faculty Core subject
	3. Environmental Management	ECW 711	3.0	Faculty Core subject
	4. Environmental Assessment	ECW 716	3.0	Programme Core subject
	5. Advanced Water Supply	ECW 714	3.0	Programme Core subject
2	1. Solid Waste Management	ECW 721	3.0	Programme Core subject
	2. Advanced Wastewater Treatment Technology	ECW 725	3.0	Programme Core subject
	3. Air Pollution	ECW 729	3.0	Programme Core subject
	Choose only one(1) of the elective subjects:			
	i) Environmental Monitoring	ECW 732	3.0	Elective subject
	ii) Hazardous and Industrial Waste	ECW 735		
	iii) Risk and Hazard Assessment	ECW 736	3.0	Elective subject
	iv) Environmental Management of Coastal areas	ECW 731	3.0	Elective subject
v) Groundwater Pollution	ECW 739	3.0	Elective subject	
3	1. Dissertation	ECS 737	12.0	Programme Core subject
	Choose two (2) from the elective subjects:			
	i) Environmental Monitoring	ECW 732	3.0	Elective subject
	ii) Hazardous and Industrial Waste	ECW 735	3.0	Elective subject
	iii) Risk and Hazard Assessment	ECW 736	3.0	Elective Subject
	iv) Environmental Management of Coastal areas	ECW 731	3.0	Elective Subject
	v) Groundwater Pollution	ECW 739	3.0	Elective Subject
vi) Any elective subjects from other disciplines (approved by faculty)		3.0	Elective Subject	
		TOTAL	42	

Table 1.5: M.Sc in Civil Engineering (Construction)(EC 775)

Semester	Subjects	Code	Credit Hours	Component
1	1. Academic English for Graduate Studies	BEL 600	UD	University Compulsory subject
	2. Numerical Analysis and Optimization	ECS 713	3.0	Faculty Core subject
	3. Environmental Management	ECW 711	3.0	Faculty Core subject
	4. Construction Management	ECM 711	3.0	Programme Core subject
	5. Management Technique	ECM 719	3.0	Programme Core subject
2	1. Construction Law and Contract Procedure	ECM 721	3.0	Programme Core subject
	2. Construction Site Management and Safety	ECM 724	3.0	Programme Core subject
	3. Construction Plants and Technology	ECM 726	3.0	Programme Core subject
	Choose only one(1) of the elective subjects:			Elective subject
	i) Concrete Construction	ECM 725	3.0	Elective subject
	ii) Risk and Financial Mgt	ECM 729	3.0	Elective subject
	iii) Construction Waste Mgt	ECM 735	3.0	Elective subject
iv) Corporate Strategic and Mgt in Construction Industry	ECM 731	3.0	Elective subject	
v) Information Technology for Construction Industry	ECM 739	3.0	Elective subject	
3	1. Dissertation	ECS 737	12.0	Programme Core subject
	Choose two (2) from the elective subjects:			
	i) Concrete Construction	ECM 725	3.0	Elective subject
	ii) Risk and Financial Mgt	ECM 729	3.0	Elective subject
	iii) Construction Waste Mgt	ECM 735	3.0	Elective subject
	iv) Corporate Strategic and Mgt in Construction Industry	ECM 731	3.0	Elective Subject
	v) Information Technology for Construction Industry	ECM 739	3.0	Elective Subject
vi) Any elective subjects from other disciplines (approved by faculty)		3.0	Elective Subject	
		TOTAL	42	

1.3 MASTER PROGRAMME (BY RESEARCH) AND Ph.D PROGRAMME

Faculty of Civil Engineering offers two(2) postgraduate programmes by research which are :

- i. M.Sc in Civil Engineering (EC 780)
- ii. Ph.D in Civil Engineering (EC 990)

2 Guideline of Minimum Requirement for Graduation

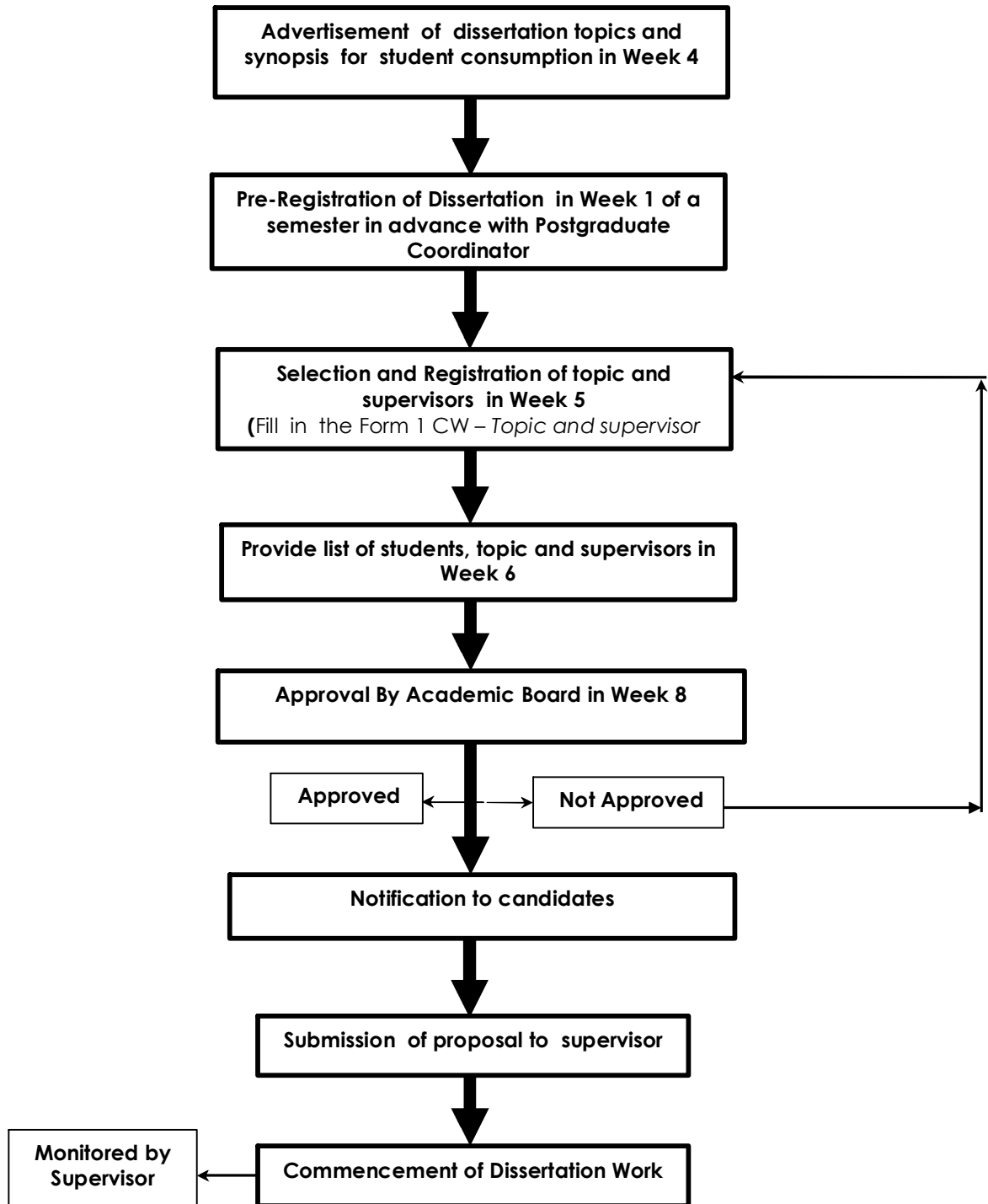
The criteria for minimum requirements for M.Sc Dissertations, M.Sc Thesis and Ph.D. Thesis are shown in Table 1.6.

SECTION 1

PROCESS AND PROCEDURES FOR DISSERTATION SUBMISSION
& ASSESSMENT FOR CANDIDATES UNDERTAKING
PROGRAMME BY COURSEWORK

1.0 Process and procedures of dissertation commencement

The process of dissertation commencement is shown in Flow Chart 1.



Flow Chart 1 : Process Dissertation Submission
Master of Civil Engineering (By Coursework)

1.1 Pre-Registration

A student who intends to register the dissertation subject in the semester must pre-register the subject in Week 1 of a semester in advance with Postgraduate Coordinator.

1.2 Selection of topic and nomination of supervisor

Below are the procedures involved in the selection of topic and nomination of supervisors for dissertation for students pursuing postgraduate studies by coursework :

1. After the list of potential students was obtained through pre-registration, Postgraduate Coordinator will obtain topics and synopsis from supervisors in relevant disciplines of five(5) areas of civil engineering specialisation.
2. The topics and synopsis will be advertised by Postgraduate Coordinator and a student may choose the topic and supervisor based on his/her interest area. The topic and supervisor chosen should be notified to Postgraduate Coordinator to match supervisor and supervisee.
3. A supervisor must sign the declaration form (**Form 1CW/topic and supervisor nomination**) to proof the supervisor's consent of his/her nomination. The signed form (**Form 1/topic and supervisor nomination**) must be submitted before the commencement of the dissertation.
4. List of topic and nomination of supervisors will be provided by Postgraduate Coordinator and be tabled and must be agreed upon by the Faculty Academic Board. A supervisor shall supervise a number of students where it distributes equally among the lecturers of the same division.
5. Candidates will be notified after the approval obtained from the Faculty Academic Board and they have to consult the supervisor for preparation of proposal.
6. Candidates are required to submit the proposal to the supervisor at the Week 10 of a semester in advance before the commencement of dissertation work. Guideline and some tips of writing research proposal is given in Section 4.0.
7. Faculty reserves the right to reject or retract any/all nominations.

4.0 Submission of dissertation

Three(3) copies of dissertation must be submitted during Week 15 of semester and Postgraduate Coordinator will inform the exact date, time and venue of viva to the students. The process for the dissertation submission is shown in Flow Chart 2 & 3.

3.0 Assessment

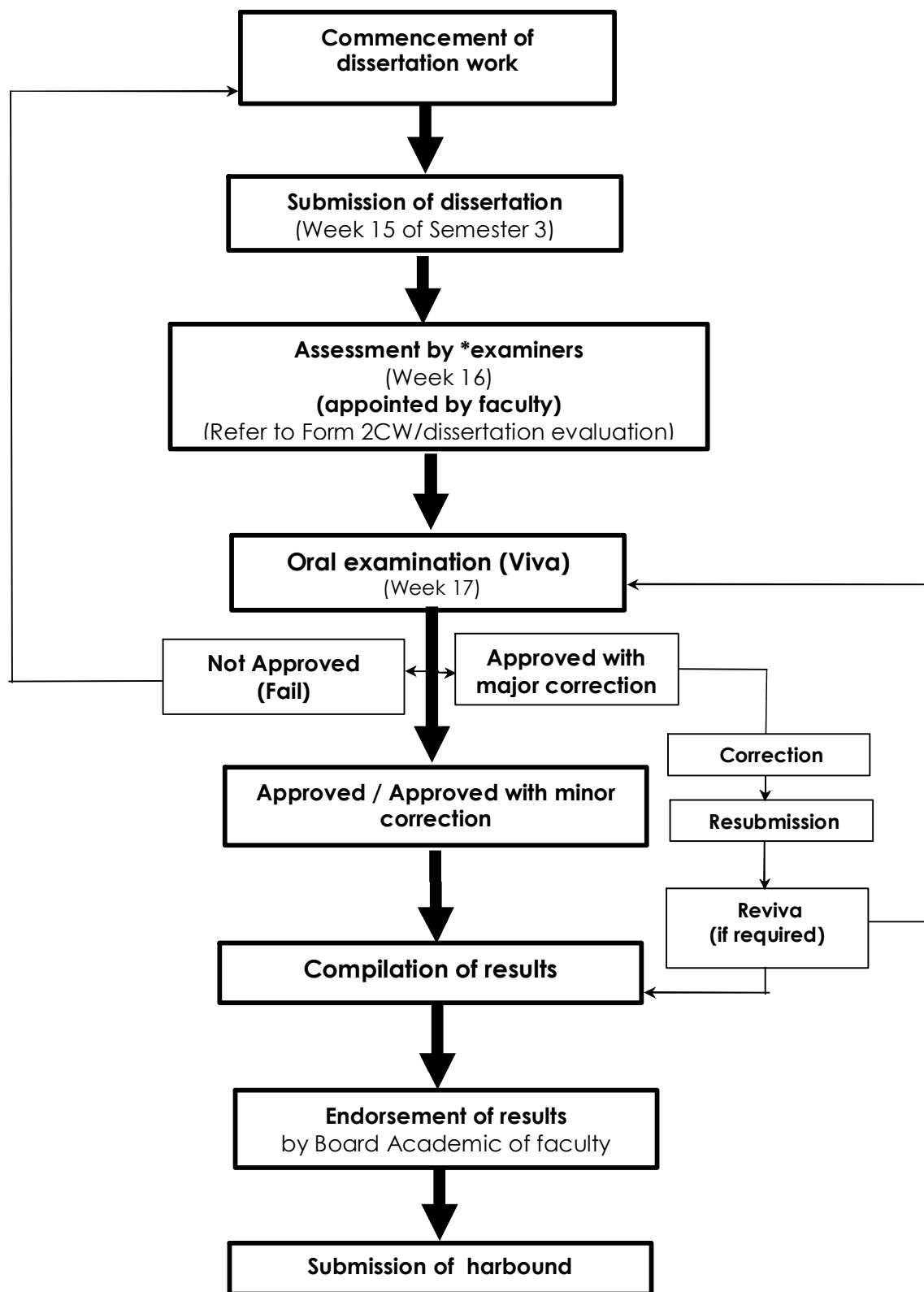
3.1 Dissertation

The assessment of dissertation will be conducted in the form of oral examination (viva). The viva will be convened after the examiners have been given one(1) week to read the dissertation. A student has to present and defend his/her research in front of at least two(2) examiners from UiTM members appointed by the Dean. Students should demonstrate to the examiners that they have mastered an appropriate level of competence in their discipline for the degree to be awarded.

The outcome of this assessment may fall into one of the following five(5) categories :

Category 1	Approved and mark will be given
Category 2	Approved with minor correction and mark will be given
Category 3	Approved with major correction
Category 4	Approved with major correction and reviva
Category 5	Not approved (student needs to repeat)

Students under Category 3 and 4 will be given 3 weeks to 4 months to correct his/her dissertation and will be given status 'TL' unless in special case he/she can be considered if he/she be able to do corrections and resubmit the corrected dissertation less within stipulated time. Students who are given status 'TL' has to fill a form "Form IPSis/DPR/014(Pin 2005) /Dissertation progress report (programme by coursework)" and shall be signed by the supervisor to proof the extension time required. Students under status 'TL' will have to register for next semester for discounted rate of registration fee with the completed "Form 3CW-IPsis /Dissertation progress report (programme by coursework)" as a proof. The form also can be downloaded from university's website.



*Examiners consists of two(2) from the UiTM staff

Flow Chart 2 : Dissertation submission (programme by coursework)

Flow Chart 3 : Dissertation Submission (programme by coursework)

Process		Action	Time
Submit three(3) copies (spiral binding) and Postgraduate Coordinator will notify date, time and venue of viva to students	➡	Student & Postgraduate Coordinator	Week 15
↓			
Appoint examiners, distribute dissertation and examiners assess dissertation	➡	Postgraduate Coordinator/Faculty & Examiners	Week 16
↓			
Conduct Viva (Examiner Fill Form 2CW/Dissertation Assessment)	➡	Student, Supervisor & Postgraduate Coordinator	Week 17
↓			
Notify results of viva to students for correction (if any)	➡	Student & Postgraduate Coordinator/Faculty	Week 17
↓			
Correct dissertation and resubmit to Postgraduate Coordinator	➡	Student & Postgraduate Coordinator	1 week – minor correction 3 weeks – 4 months (max) with status TL – major correction (Refer to Section 3.1)
↓			
Reassess or reviva	➡	Examiner & Student	
↓			
Compile the evaluation results from examiners	➡	Postgraduate Coordinator	
↓			
Table and endorse results of student's at Academic Board of Faculty	➡	Postgraduate Coordinator / Academic Board of Faculty	
↓			
Submit hardbound dissertation	➡	Student & Postgraduate Coordinator	

4.0 Writing format

4.1 Proposal

4.1.1 Length

The length of proposal should not be more than 12 pages.

4.1.2 Language

APPENDIX 1

FORMS FOR PROCESS AND PROCEDURES FOR DISSERTATION SUBMISSION & ASSESSMENT FOR CANDIDATES UNDERTAKING PROGRAMME BY COURSEWORK

SECTION 2

**PROCESS AND PROCEDURES FOR DISSERTATION SUBMISSION &
ASSESSMENT FOR CANDIDATES UNDERTAKING PROGRAMME BY
RESEARCH**

9.1 Proposal for candidates undertaking programmes by research

Second semester Ph.D candidate has to submit the proposal to Institute of Graduate Studies (IGS) for 'defence of proposal' presentation (refer to Session 5.0) while M.Sc candidate has to submit to the faculty.

During the presentation, candidates are required to defend their proposal before a panel. The proposal is assessed by a panel consisting of :

- chairperson appointed by IGS
- research methodology experts appointed by IGS
- at least two(2) members appointed by the faculty

The outcome of this assessment may fall into one of the following five(5) categories (Form 5/Defence Assessment):

Category 1	proposal accepted as it is. No amendments are needed. Candidate can proceed
Category 2	Proposal accepted with minimal amendments. Candidate can proceed
Category 3	Satisfactory, but amendments need to be made and re-submitted to the Faculty's Graduate Coordinator
Category 4	Major amendments. Candidate is required to resubmit the proposal and present again to the IGS level
Category 5	Proposal rejected. Candidate is required to prepare a new proposal and present again at IGS level

9.2 Progress Reports for candidates undertaking programmes by research

The Postgraduate Seminar will be held annually as an avenue to monitor the progress of postgraduate students pursuing their studies by research. Besides, it will provide an opportunity for dissemination of knowledge and discussion on findings and issues related to postgraduate research.

Candidate is required to submit the research progress report in the format of a technical paper as illustrated in Section 3 to Postgraduate Coordinator two(2) weeks before the presentation to give time for panel members to read. Candidate is required to submit and present the research progress report to the faculty at the end of every semester.

'Postgraduate seminar' will be held during Week 15 every semester. The assessment from the panels will determine whether the candidate can proceed his/her studies.

The progress report is assessed by a panel consisting of two(2) panels from the faculty members and are appointed by the Dean of Faculty. The panels will assess the candidate presentation of progress report during 'postgraduate seminar'.

The outcome of this assessment may fall into one of the following four (4) categories (Form 6/ research progress assessment) :

Category 1	The candidate can proceed to the following semester
Category 2	The candidate is to be given a reminder on the need to improve his/her overall performance.
Category 3	The candidate has NOT demonstrated an acceptable level of performance to proceed with his/her study.
Category 4	Others (specify)

Candidate who do not demonstrate satisfactory level of performance will receive reminder letter from IGS. The master level candidate can be dismissed if obtained two(2) consecutive reminder letters while three(3) for Ph.D candidate.

9.3 Thesis for candidates undertaking programmes by research

For Ph.D, two(2) external examiners and one(1) internal examiner from faculty are nominated by the faculty and appointed by the University after endorsed by the Senate. For M.Sc one(1) external examiner and one(1) internal examiner will be appointed. The oral examination (viva) of the thesis will be convened after the examiners have read the thesis and submitted their reports to IGS. Candidates should be aware that it may take at least three (3) months after submission for the Secretariat (IGS) to receive the reports and schedule the viva.

At the end of the viva, the panel will make a decision on the candidate's performance by selecting one of the following outcomes :

Category 1	The candidate is awarded the degree without
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	any amendment to the thesis or any condition placed upon him/her.
Category 2	The candidate is awarded the degree subject to minor amendments / corrections to the thesis as detailed in the thesis evaluation report.
Category 3	The candidate is awarded the degree subject to major amendments / corrections as detailed in the thesis evaluation report.
Category 4	The candidate does not qualify for the award of the degree based on the thesis evaluation report and/or the outcome of the viva, but is permitted to re-submit the thesis for further examination and another viva after making major changes and revisions.
Category 5	The candidate does not qualify for the award of the degree based on the thesis evaluation report and/or the outcome of the viva.

If in the case inconclusive result cannot be obtained where the examiners cannot agree on the outcome of the viva, the examination may be adjourned by the Chairman. At the end of the viva, the examining panel completes a report for the Senate. The Chairman will appoint an additional examiner to re-examine the thesis and another viva will be arranged by IGS.

The process and procedures of post-viva and endorsement of results are detailed in *"Processes & procedures of Postgraduate Research Degree Programmes"* issued by Institute of Graduate Studies (IGS).

10.0 Role and Responsibilities of Supervisor

10.1 Supervisor

The function of a postgraduate degree supervisor is to assist and advice the student in the design, development and completion of a dissertation/research within the stipulated time. The creation and enhancement of an effective supervisory relationship is crucial to the function of a supervisor and in many ways this relationship has to be a smart partnership premised on a win-win orientation. From the outset, both parties must negotiate and mutually agree on how they will work together.

10.2 Selection of Supervisors and Co-Supervisors/Joint Supervisor

10.2.1 Ph.D and M.Sc Candidate (programme by Research)

Each candidate should have at least two(2) supervisors. The principal supervisor is normally an academic staff member of the faculty who demonstrate expertise and interest in the candidate's chosen area. The co-supervisor/joint supervisor/(s) can be from staff member of faculty or from other organisation. In cases where the candidate's research is sponsored or undertaken in collaboration with an external organisation, a co-supervisor drawn from that organisation may also be appointed. The suitability of supervisors is determined by the Board of Academic faculty based on the proposal submitted by candidate in the application form and will be nominated to IGS. Supervisors are appointed by the University after endorsed by the Senate. Potential co-supervisor/s are required to submit his/her curriculum vitae to the faculty to be approved by the Board of Academic faculty before the appointment. Faculty has a right to change supervisor or upon request of candidate.

10.2.2 M.Sc (programme by coursework)

Each candidate should have at least one(1) supervisor. Each faculty member graduated with Ph.D degree should supervise student and become main supervisor. The topic of dissertation can be an interest of student or suggested by supervisor. Faculty members without Ph.D qualification but with sufficient experience in relevant studies can become main supervisor with Board of Academic's approval. In cases where the candidate's research is sponsored or undertaken in collaboration with an external organisation, a co-supervisor drawn from that organisation may also be appointed. Potential co-supervisor/s are required to submit his/her curriculum vitae to the faculty to be approved by the Board of Academic faculty before the appointment.

10.3 Role and responsibilities of Supervisor

The responsibilities expected of supervisors are as follows :

- i. Ensure that the candidate/student understands and adheres to rules and regulations of the University's graduate programme.
- ii. Establish at the beginning of the candidate's/student's research/dissertation programme the requirements on the frequency and format of meetings and progress report. While the frequency of meetings may differ from one candidate/student to another, it is expected that a minimum schedule of fortnightly meetings be adhered to, especially for main supervisor.

- iii. Assist the candidate/student in the planning and implementation of a research/dissertation that could be completed within the stipulated time. In accepting appointments, supervisor should fill their commitments for the duration of the candidate's/student's study and assist the candidate/student in the planning and implementation of the research/dissertation programme.
- iv. Monitor the candidate's/student's progress in acquiring background knowledge as well as in the research topic itself. The supervisor may have to advise the candidate on the fundamentals of research such as the necessity for systematic procedures, working methods, record-keeping, etc. Candidates/students must be constantly reminded of the consistencies of the central thesis of the research and the issues of plagiarism.
- v. Assist the candidate/student in getting the relevant skills and knowledge for the research area by :
 - attending coursework or tutorials
 - participating in seminars and conferences
 - undertaking a comprehensive literature review

10.4 Role and responsibilities of Co-supervisor/joint supervisor

The co-supervisor plays a significant role in the supervisory process and while not necessarily an expert, he or she should demonstrate sufficient understanding and interest in the candidate's/student's chosen field. The co-supervisor has to work closely with the main supervisor in ensuring that the student is offered advice and assistance that is consistent and in line with the mutually agreed arrangements. Co-supervisors may provide candidates/students with different and perhaps contradictory perspectives on the chosen topic, especially if it is of an interdisciplinary nature. They also help to ensure the continuity of the supervisory process, and in the likelihood that the main supervisor is unavailable for a period of time, they would be required to perform the latter's role.

11.0 Criteria for the nomination of main supervisor

Criteria for main supervisor for postgraduate research (apply to all programme) are as follows:

1. The main supervisor must be an academic member of the University and of the faculty where the candidate/student is registered.
2. The main supervisor for a Doctoral candidate should have doctoral degree or equivalent academic and/or professional credentials/expertise/ experience in the discipline area of the candidate's/student's research.

The main supervisor for a master candidate/student need not have a Doctorate, but must have at least a masters degree or equivalent academic and/or professional credentials and expertise in the discipline or area of the candidate's research.

3. The main supervisor should not be currently registered as a postgraduate student at the University or elsewhere.
4. The main supervisor must agree to carry out the responsibilities of a supervisor as outlined in the "Processes & Procedures of Postgraduate Research Degree Programmes" issued by Institute of Graduate Studies (IGS).
5. The main supervisor shall not be an intimate friend or relative of the candidate/student or of any of the other supervisors to avoid ethical issues being raised and to ensure impartiality and independent judgement.

12.0 Changing supervisor

Faculty has a right to change supervisor or upon request of candidate/student.

If a supervisor is no longer in a position to continue with supervision duties, (e.g through moving to a new post at another institution), then the Dean of the faculty should identify and allocate a new permanent supervisor with the appropriate academic background and supervisory experience.

In the case students/candidate and supervisor are no longer having common interest, the former should write to the Dean and the Dean should identify and allocate a new supervisor.

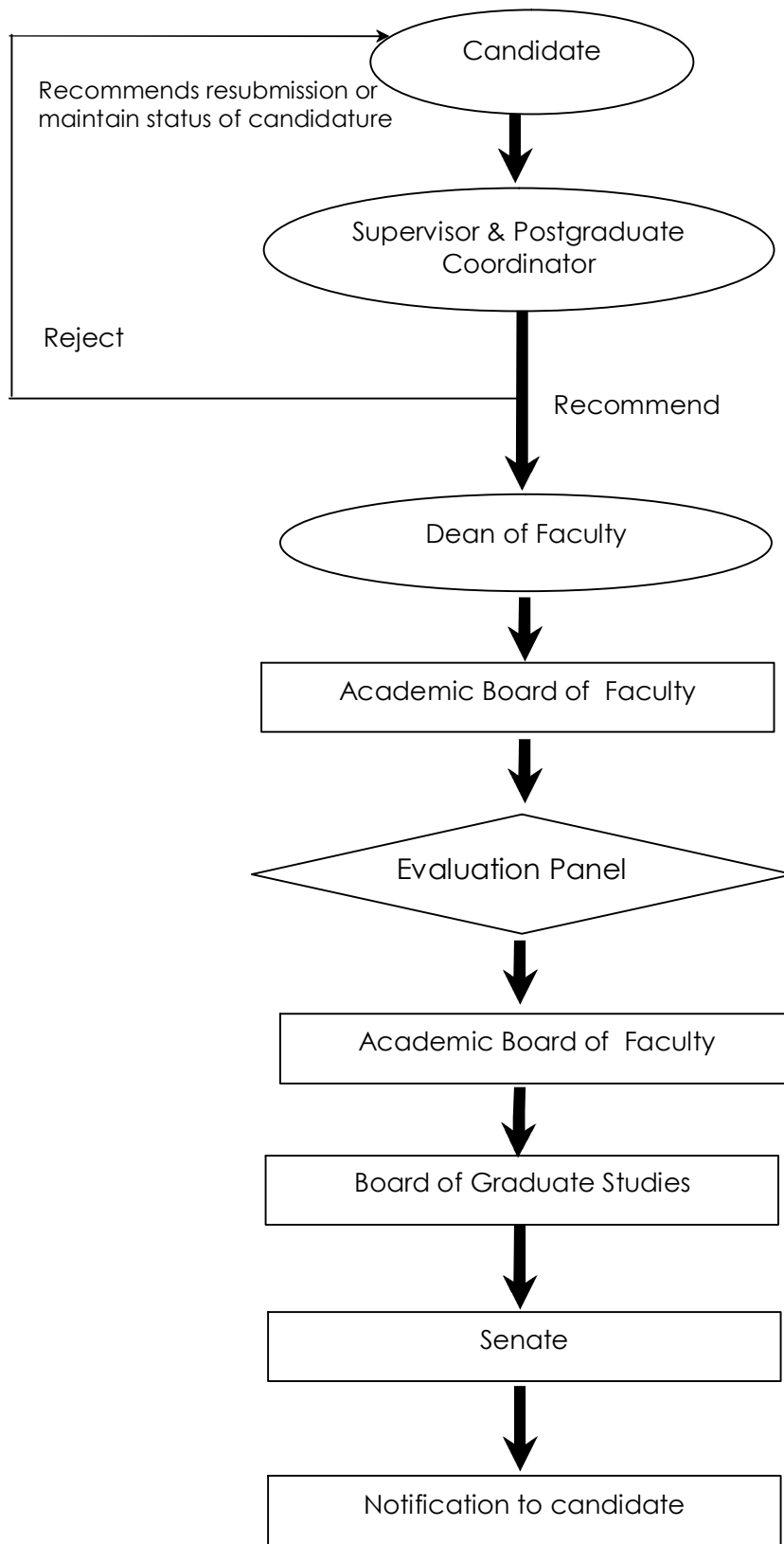
13.0 Upgrading M.Sc thesis to Ph.D

M.Sc Candidate (by research) who demonstrate excellent performance during his/her candidature as research student can upgrade his/her thesis to Ph.D by writing the application to the Dean of the Faculty of Civil Engineering.

The application of candidate to upgrade his/her thesis to Ph.D will be considered following the guideline and procedures as described below :

1. The candidate must sent his/her application to the Dean of the Faculty of Civil Engineering with the condition that the candidate has enrolled at least twelve(12) months and not more than fifteen(15) month as a research candidate.
2. The candidate must submit a 'transfer report' not more than 6,000 words containing the following :
 - a. Introduction and scope of work
 - b. Objective of research
 - c. Methodology of research
 - d. Outcome of research up to 12 months progress
 - e. Plan and scope of work for Ph.D research
3. The application must be attached with support letter from supervisor and Postgraduate Coordinator.
4. Postgraduate Coordinator will table the application to the Academic Board of faculty and nominate one(1) external assessor and two(2) internal assessors to assess the 'transfer report' of the applicant.
5. Upon approval of Academic Board of faculty, postgraduate coordinator will arrange a viva for the candidate. The viva will be assessed with the presence of two(2) internal assessors. The external examiner will be required to submit the report using Form 7/transfer report assessment.
6. The report from external assessor and the results of viva from internal assesors will be tabled to Academic Board of faculty for approval .
7. The results will submit to IGS for Senate approval and the outcome will be notified to candidate by IGS.

The flow chart on upgrading status of candidature from Master to Doctoral program is shown in Flow Chart 5.



Flow Chart 5 : Process and upgrading status of candidature from Master to Doctoral Programme

SECTION 2
WRITING FORMAT

1.0 Guideline writing proposal for dissertation (programme by coursework)

1.1 Technical Specification

Length

The length of proposal report should **not be more than 10 pages**.

Language

English

Typing, Typeface, Font Size and Printing

The entire text of the proposal report should be written using Times New Roman with font 12 points in size.

Spacing

The proposal report should be type one and half (1.5) - spaced except for references, multi-line captions (illustration likes tables, figures, plates), appendices, heading or sub-heading.

Cover

Using 14-point font initial capitals, the following particulars should be printed on the proposal report cover :

- a. Title of the thesis
- b. Full name of candidate and ID
- c. Programme
- d. Contact No.
- e. Name and Signature of Supervisor
- f. Date of submission

The example of the cover is shown in Section 3.

1.2 Submission

Three(3) copies of the proposal with spiral binding should be submitted to the Postgraduate Coordinator before Week 10 semester together with the Form 1/topic 7 supervisor nomination. The proposal report must be signed and endorsed by supervisor.

1.3 Proposal Content

The proposal usually contains the following elements :

- i. Title
- ii. Abstract
- iii. Introduction
- iv. Literature Reviews
- v. Methodology

- vi. Expected Outcome/Preliminary Results (if any)
- vii. Working schedule

1.4 Tips of writing proposal for students

A good proposal must contain the following elements :

1.4.1 Title

Think about your title.
Titles should be clear and concise.
Include catchy phrases in your title.
Compromise between informative and concise.
Generally between 10 to 12 words.

1.4.2 Abstract

Should be clear and concise and it reflects the content of the proposal.
Brief statement of objectives.
Brief description of methodology.
Significance of study.

1.4.3 Introduction

Begin with broad general statements
Problem statement (narrow down) – reveal the why of study?
Objectives (what you are going to achieve)
- clear and measurable
- must be consistent with methodology and conclusions
Scope of study (what are you going to do) and should not be confused with objectives

1.4.4 Literature Reviews

The documentation of a comprehensive review of the published and unpublished work done thus far in the area of investigation
Write in clear and logical presentation
Write according to topic, do not by authors
Critical examination of previous
Read and write – do not ‘copy and paste’
Identify gap in existing body of knowledge
Referencing and citation

1.4.5 Methodology

Describe what method, techniques, tools and approaches used

Brief theoretical background
Describe work process sequentially
List data collection procedures
Describe data analysis/statistical tests
Identify target population and sampling
Clearly describe variables and methods of evaluation
Cite standard procedures
Describe in details of own procedures

1.4.6 Expected outcome/Preliminary Findings

Refer and relate to the objectives
Relate to key variables and parameters
Present in the form of tables and figures/plot
What do you expect the final findings (literature review will be able to help)
How the results will be analysed? (i.e use median, mean, median, etc.)

The checklist of writing proposal also can be referred to Form 2/proposal assessment.

2.0. Guideline writing proposal for defence of proposal (programme by research)

Candidate who in the second semester is required to submit the proposal for defence proposal presentation conducted by Institute Graduate Studies (IGS) for Ph.D and by the faculty for M.Sc candidate. Candidate will be informed by IGS the date of presentation and deadline to submit the proposal. The format of writing proposal can be obtained from IGS.

The guideline of writing proposal for defence of proposal can be referred to Section 1.3 and 1.4.

3.0. Guideline for writing research progress report (programme by research)

3.1 Content

A candidate is required to submit an article indicating progress of his/her work that comprises **all** or **any** of the following elements :

1. Abstract
2. Background of study/problem statement
3. Objectives of study
4. Scope of work
5. Extensive literature review
6. Methodology/preliminary investigation
7. Significant findings/preliminary findings
8. Conclusion

The research progress report will be published in a proceeding and posted on the faculty's website. Two (2) assessors will be appointed to evaluate the report and presentation.

Supervisor/(s) is/(are) required to be involved in the editing of their supervisee submissions.

3.2 Technical Specification

Report should be printed on good quality paper, A4 size 21.6 x 28 cm (8 x 11 inches). Printed area is to be approximately 17 x 25 cm (6.87 x 10 inches).

Length

Report should not exceed **12 pages**, inclusive of charts, diagrams and references, and should be typed single-spaced with font size 12 points, Times New Roman.

Title

The title should be brief and typed in **CAPITAL** letters, 16 points Times New Roman, **bold** and with at least 1 inch (25 cm) margin from top of the page. If more than one line is required it should be single-spaced.

Allow a single space after title to type the name of candidate and supervisor/(s), followed immediately with an address of correspondence with e-mail.

Abstract

Allow three extra spaces between the correspondent/address and type the word **ABSTRACT** capitalised, 11 points Times New Roman and bold. The abstract should be factual and not exceed 300 words.

Text

Text should be clear and concise. Tables and Figures must be cited in an orderly sequence. The text can be broken down into sections with major headings. The major heading should be typed in CAPITAL and **bold** and sub-heading should be typed in small letter and **bold**.

Figures and Tables

Tables and Figures are parts of the text, placed immediately after references are made and should have two extra spaces above and below the Table or Figure. The word **TABLE** and **FIGURE** should be bold and followed by an Arabic numeral and captions in small letter.

References

References are written in the alphabetical order and the citation in the text follows APA styles (author/(s) and year). References should contain the names of all authors.

The example of the format of progress report is attached in Section 3.

3.3 Submission

Three (3) copies of progress report must be submitted to the Postgraduate Coordinator together with a softcopy two(2) weeks before presentation. Candidates are required to follow the format strictly as the progress report will be compiled and appeared on the website of the faculty.

4.0 Guideline on writing dissertation for coursework and thesis for research based programmes

A general guide of writing Master and Doctoral theses for both by coursework and research is available in the "Guidelines for Postgraduate Thesis' issued by IGS.

References :

1. Peraturan Akademik Pengajian Pasca Siswazah Edisi Januari 2007
2. Processes & Procedures of Postgraduate Research Degree Programme Edition January 2007
3. Cadangan garis panduan kriteria minima bagi projek tahun akhir ijazah sarjana muda & ijazah sarjana serta tesis bagi ijazah sarjana dan tesis doktor falsafah di Fakulti Kejuruteraan Awam

SECTION 3

FORMS