



Policies & Procedures Manual Sir Syed University of Engineering & Technology

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Policy Statement
It is the policy of SSUET to establish a quality management system that meets the quality standards expected by our stakeholders. To achieve this, SSUET management is committed to continuous improvement in all areas of activities.

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RULES AND REGULATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (PhD)

1.0 Preamble

Rules and regulations are formulated for the postgraduate studies leading to the Degree of Doctor of Philosophy (PhD) at Sir Syed University of Engineering and Technology, Karachi and are updated when required. These rules and regulations are updated in accordance with the HEC's Graduate Education Policy – 2023, shared via notification # 15-54/Coord/2019/HEC/(QAD)/560 dated 10th July 2023.

2.0 Applicability

These PhD Rules (version 8) are applicable to all PhD Scholars admitted in Spring 2024 Session and Onwards, whereas for previous Batches, PhD Rules (Version 7) is applicable.

3.0 Admission Requirements

3.1 Education: HEC recognized Master's degree (MS, MPhil or equivalent) in relevant discipline with minimum CGPA of 3.0 out of 4.0 (in the semester system) or First Division (in the annual system), whether such degree was obtained from Pakistani or foreign universities.

3.2 If the CGPA/Percentage is not mentioned on the transcript, the candidate must produce equivalent weightage from the parent university.

3.3 Test:

A GAT-General Test conducted by National Testing Service (NTS), passed with minimum 60% marks. In addition to that a GAT-Subject test conducted by SSUET MUST be passed with minimum 60% marks.

3.4 Interview: An interview must be cleared that shall be conducted by the departmental Postgraduate Admission Committee.

3.5 Statement of Purpose: Applicants are required to submit a Statement of Purpose covering following points,

- i. Title of the potential research proposal
- ii. Clear articulation of the current understanding of the intended field and ideas for potential research
- iii. Explanation of the intended impact of the proposed research
- iv. The prospective candidates shall demonstrate passion and enthusiasm for the area of research.

4.0 Admission Procedure

4.1 Students seeking admission in the PhD programme shall submit their application to the Admissions Office, though prescribed application form along with relevant documents and Statement of Purpose.

4.2 The Admissions Office shall conduct the Admissions Test as prescribed in section 3.3.

4.3 A departmental PhD admission committee, comprising of at least 2 senior PhD faculty members and one external member, shall be proposed by the chairperson of the department and approved by the Vice Chancellor.

4.4 The departmental Postgraduate Admission Committee shall conduct the interview and assess an applicant's suitability while considering the following:

4.4.1 The admission requirements described in para 3.0.

4.4.2 The availability of potential PhD supervisors and the maximum number of PhD students that can be admitted in a programme in light of HEC's policy on the subject.

4.4.3 The availability of requisite resources, in light of the candidate's statement of purpose, to

train and supervise the doctoral candidate in the subspecialty in which the applicant is interested.

4.4.4 Prerequisite courses that an applicant may need in order to meet a program's requirements.

4.5 The departmental Postgraduate Admission Committee, with the consent of the candidate, will also recommend a supervisor (and a co-supervisor if required) for each candidate recommended for admission in accordance with para 6.0.

4.6 The departmental Postgraduate Admission Committee shall forward its recommendations to the PGP office through the Chairperson of the department.

4.7 The recommendations of the relevant Postgraduate Admission Committee shall be forwarded to the Admissions Office for necessary approvals and announcement of results to the applicants.

5.0 **Scheme of Implementation**

5.1 **Admission:** Initially provisional admission shall be given.

5.2 **Duration:** The duration for completing the PhD degree requirements shall be minimum 03 years and maximum 08 years from the date of enrolment.

5.3 **Coursework:**

5.3.1 Course work of minimum 18 credit hours (06 PhD level courses) is required to be completed within 1st three semesters of initial enrollment. These 18 credit hours will be in addition to any pre-requisite courses recommended by the supervisor, GC.

5.3.2 The courses shall be offered through regular classes (i.e., classes taught on campus by full-time faculty members of the university)

5.3.2 A student enrolled in a PhD programme may take up to 06 credit hours of PhD level courses from other disciplines subject to approval of individual courses as being acceptable by the department towards the student's PhD degree.

5.3.2 (a) None of the PhD student is allowed to take any PhD Course towards his/her PhD course work which he/she has already taken in Masters Level or at least with 70% similar contents of that course which they have already taken.

5.3.2 (b) If there is a similar course, the student will submit the request to Concerned Dean through course teacher, to determine the similarity of both course along with their course contents.

5.3.2 (c) It will be the sole responsibility of the PhD student to comply 5.3.2 (a) rule and verify their Masters Level Courses.

5.3.2 (d) At any point of time, the Examination department has the right to cancel that course towards his/her PhD course work in case of non-compliance.

5.3.3 Minimum CGPA is required to be 3.0 out of 4.0 in the 18 credit hours of PhD level courses that are to be counted towards PhD coursework.

5.3.4 A student may repeat a PhD level course in which grade point of less than 3.0 is achieved to improve the CGPA. Improvement is allowed only once for a course. The better grade will be used in the computation of CGPA.

5.3.5 If an elective course cannot be offered for repetition due to unavoidable circumstances, a student may take an alternative elective course with the approval of Supervisor and shall get the earned grades. The better grade will be used in the computation of CGPA.

5.4 **Comprehensive Examination:** A Comprehensive Examination is required to be passed after completing PhD level courses with minimum CGPA of 3.0 and within 1st four Semesters of initial enrollment. The Comprehensive Examination is composed of a written exam. The details of the Comprehensive Examination are given in para 8.0.

5.5 PhD Candidacy: After clearing the Comprehensive Examination, the PhD Candidacy will be awarded after the approval of BASR.

5.6 Research Proposal:

- 5.6.1 The required coursework, comprehensive exam, and defense of synopsis/research proposals should be completed within the 1st PhD six semesters of the registrations into program. In case of noncompliance, the registration shall be cancelled and transcripts for completion of coursework may be issued to the student.
- 5.6.2 In an event of force majeure i.e., noncompliance on account of circumstances beyond the control of student, the university may consider the matter in accordance with the procedure laid by HEC.
- 5.6.3 After obtaining the PhD candidacy, the student is required to submit the written research proposal in consultation with Guidance Committee (GC) and present it in a seminar.
- 5.6.4 After having successfully defended the research proposal, the proposal shall be recommended by the GC for approval from BASR.
- 5.6.5 The proposal should identify the research problem, review the relevant literature, describe the tasks planned to solve the problem, and propose a timeline for the completion of the research work.
- 5.6.6 Additionally, they are required to demonstrate how their proposed solution offers a novel approach to addressing this problem. Instead of using the existing techniques with slight modifications, the candidate is required to introduce a genuinely new methodologies aimed to solve the identified problem.
- 5.6.7 The research area of the PhD researcher shall also correspond to the community needs at regional and local levels and comply with the priority national research agenda and also Signify emerging areas of research that coincide preferably with sustainable development goals (SDGs)
- 5.6.8 If the student's GC deems that the proposal needs further work, it may apprise the candidate appropriately, assigning a timeline for a proposal re-defense.

5.7 Research Work: During PhD candidacy, the scholar shall engage in creative and innovative research work (equivalent to 30 credit hours) leading to an original PhD thesis. The research work must include novel methodologies rather than using already existing algorithms by just changing their parameters.

5.8 Review of Progress:

- 5.8.1 The progress of a PhD student shall be reviewed biannually during the period of research.
 - 5.8.1.1 **Minor Review of Progress:** The minor review of progress shall be undertaken in Spring Semester. The PhD student shall submit the prescribed progress review form to GC. The committee shall review the progress and inform the BASR about the progress along with any recommendations if required.
 - 5.8.1.2 **Major Review of Progress:** The major review of progress shall be undertaken in Fall Semester. As a part of this review, the PhD student shall deliver an open seminar on his/her research work and complete the prescribed progress review form. The GC shall review the progress considering the seminar and the progress report, and inform the BASR about the progress along with any recommendations if required.
- 5.8.2 Failing to submit two consecutive progress reports or failing to demonstrate satisfactory performance in two consecutive progress reviews may result in expulsion from the PhD programme on approval of BASR.

5.9 Publications:

5.9.1 For award of PhD degree, a PhD researcher shall be required to publish research articles meeting the following criteria:

At least:

5.9.3.1 One research article in W category journal (As categorized in HJRS at the time of acceptance of the research article) or two research articles in X category journals, for Science disciplines

5.9.3.2 One research article in X category journal or two research articles in Y category journals, for Social Science disciplines

5.9.2 The PhD researcher shall be the first author of these publications.

5.9.3 The research article shall be relevant to the PhD research work of the PhD researcher.

5.9.4 The article shall be published after approval of the research synopsis.

5.9.5 The article shall be published in a relevant research journal.

5.10 Thesis Examination and Defence: The student after completing the research work shall document research details in a PhD thesis and submit it for examination and subsequent defence. The details of thesis examination and defence are given in section Para 9.0 respectively.

5.11 Leave of Absence:

5.11.1 A candidate, who is temporarily unable to continue research because of unavoidable circumstances, should file an application to the BASR through the supervisor for leave of absence. Such leaves of absence shall not exceed twelve months in total. Such leaves will be subject to approval from BASR.

5.11.2 This leave of absence does not extend the degree duration requirements defined in Para 5.2.

5.11.3 When the candidate returns from the leave, the Postgraduate Programme Office (PGP) on the recommendations of Supervisor may allow the student to continue and to inform BASR

5.12 Changes: A supervisor, GC member or research topic may be changed with considerable justification, subject to BASR approval.

6.0 PhD Supervisor

6.1. Criteria to Be a PhD Supervisor

To be a PhD Supervisor, a faculty member shall meet the following requirements and submit the PhD Supervisor Approval Form, for the approval from BASR.

6.1.1 General Requirements for PhD Supervisor:

a) A PhD degree from a HEC-accredited national/international university.

b) A regular/adjunct faculty member of the University, whereas a co-supervisor can be selected from outside the university.

c) The topic must be related to the student's research area and there should be NO CONFLICT OF INTEREST in personnel, financial or professional stakes.

d) A PhD Supervisor can supervise not more than five PhD students simultaneously. Furthermore, fresh PhDs can supervise MS/MPhil and co-supervise PhD students, while a PhD faculty member, after two years of obtaining (date of issuance) of PhD Degree, can supervise one PhD student in the third year, two PhD students in the fourth year, and maximum up to five PhD students in the fifth year and onwards, subject to the other conditions outlined in this policy.

- e) Fulfilling the Publication Requirements as per section 6.2.2 of this policy.
- f) Final approval for the PhD Supervisor will be obtained from the BASR.

** All the previously HEC approved PhD Supervisors shall remain approved until the date mentioned on their award letter, issued by HEC

6.2.2 Publication Requirements for PhD Supervisor:

In addition to fulfilling the General Requirements, a PhD supervisor must publish research articles in the HEC's recognized research journals and the category specified in the HJRS for the publication year. These conditions are different for different disciplines and aim to ensure that the potential PhD supervisor is an active researcher:

A. Specific Requirements for Science and Technology:

For indigenous and foreign PhDs:

- i. Within the last 3 years after PhD: at least one research publications in W category journal. OR
- ii. Within last 5 years after PhD: at least five research publications in X category journal.

B. Specific Requirements for Social Science, Arts and Humanities and Business Education:

For indigenous and foreign PhDs:

- i. Within the last 3 years after PhD: at least one research publication in W category journal. OR
- ii. Within the last 5 years after PhD: at least five research publications in X and Y category journal.

C. Specific Requirements for Regional and National Languages:

For indigenous and foreign PhDs:

- i. Within the last 3 years after PhD: at least one research publication in X category journal. OR
- ii. Within the last 5 years after PhD: at least five research publications in X or Y category journal.

6.2.3 Procedure to Apply for PhD Supervisor

A PhD Faculty member, who intends to be a PhD Supervisor, is required to submit the "PhD Supervisor" form along with all documents, in PGP Office through Concerned Chairperson, atleast 2 weeks before the BASR.

7.0 Guidance Committee (GC)

7.1 A Doctoral GC should be formed at the earliest after the admission of a student into the PhD program. The GC must be formed before the Comprehensive Examination of the student.

7.2 The GC shall comprise of PhD qualified members. The GC shall be composed of at least three members including the supervisor, the co-supervisor (if appointed), at least one internal expert and at least one external expert from a reputed university, R&D organization or relevant industry. The student's supervisor shall chair the GC meetings.

7.3 The chairperson of the department in consultation with the student and the supervisor shall propose GC members. The committee shall be approved by BASR.

7.4 The GC shall hold its meetings at least once a year.

8.0 Comprehensive Examination

8.1 The comprehensive examination is required to be passed after completing PhD level courses with minimum CGPA of 3.0 and within 1st four Semesters of initial enrolment. In case of noncompliance, the registration shall be cancelled and transcript for completion of coursework may be issued to the student

8.2 The Comprehensive Examination shall comprise of written examination focusing on the knowledge covered in the entire PhD coursework.

8.3 The chairperson of the concerned department shall supervise the Written Exam including

allocation of examiners, preparation of question papers and conduction of the examination. In case the department's chairperson is also the student's supervisor, the Dean or his nominee shall supervise the examination.

- 8.4 The examination shall be composed of 01 composite question paper with 06 sections (one for each course from PhD coursework) with no choice in questions to be answered. Maximum allowed time shall be 30 minutes for each section.
- 8.5 Minimum passing marks are 60% in aggregate, expressed in terms of Pass/Fail.
- 8.6 A student is allowed to appear for Comprehensive Exam maximum two times.

9.0 PhD Final Thesis Dissertation

9.1 Doctoral Dissertation

Each PhD researcher shall write a doctoral dissertation reflecting relevance, credibility, effectiveness and legitimacy of the research. The dissertation must be an original and innovative contribution to knowledge that contributes to solving socioeconomic problems. Following guidelines must be observed for the doctoral dissertation.

9.1.1 Quality in Reporting

The quality of presentation and reporting in dissertation shall reflect the following characteristics:

- 9.1.1.1 The document is well written.
- 9.1.1.2 The contents are balanced, well organized, appropriately styled; clearly structured, and well cohered; and
- 9.1.1.3 The document is free from grammatical and spelling errors and flawed terminology.
- 9.1.1.4 Minor shortcomings such as inaccurate use of acronyms and clumsy looking sentence structure have been addressed.

9.1.2 Methodological Quality

The following guidelines shall be useful in making the PhD Research methodologically sound.

A. Guidelines ensuring the quality of QUALITATIVE Research:

A PhD research dissertation, based on the Qualitative Research methods should satisfy, at least, the following questions:

- a. "Does the research, as reported, illuminate the subjective meaning, actions and contexts of those being researched?"
- b. "Is there evidence of the adaption and responsiveness of the research design to the circumstances and issues of real-life social settings met during the course of the study?"
- c. "Does the sample produce the type of knowledge necessary to understand the structures and processes within which the individuals or situations are located?"
- d. "Is the description provided detailed enough to allow the researcher or reader to interpret the meaning and context of what is being researched?"
- e. "How are the different sources of knowledge about the same issue compared and contrasted?"
- f. "Are subjective perceptions and experiences treated as knowledge in their own right?"
- g. "How does the research move from a description of the data through quotation or examples to an analysis and interpretation of the meaning and significance of it?"

B. Guidelines ensuring the quality of QUANTITATIVE Research:

- a. Reliability – are the results repeatable?
- b. Validity – does it measure what it says?
- c. Internal validity – do the research results indicate what they appear to be?
- d. External validity – can the results be generalized to other settings (ecological validity) and to other populations (population validity)?
- e. Replicability – are the results of the study reproducible

9.1.3 Appropriateness of the Methods to the Aims of the Study

To achieve the research objectives, the alignment of the research approach and methods is necessary. Therefore, a PhD dissertation, at least, shall:

- a. Reflect a fair proportion of latest knowledge of contemporary techniques and methods in relation to study objectives.
- b. Contain detailed and easily comprehensible discussions regarding the applied methods and techniques.
- c. Justify the use of methods and techniques to achieve study objectives.
- d. Show evaluation of obtained results in relation with study objectives. And:
- e. The methods and techniques used should justify the results obtained.
- f. The obtained results should support the study objectives.

9.1.4 Relevance to the Policy and Practice

The research should have significantly answered questions related to policy and practice in that area, establishing its usefulness and usability. Accordingly, a PhD dissertation, at least, shall:

- a. Reflect judicious evaluation of study results in relation with policy related aims and goals undertaken while starting the research.
- b. Discuss the practical implications of the study results in association with the developing practices in that area.
- c. Establish usefulness of the study results for devising policy as stated in the beginning.
- d. Discuss how the resulting policy would be useful for the organization/society. And:
- e. The study output should be significant enough to be published or patented.
- f. The assessment of the results performed by the author must not be superficial and lacking substance.

9.2 PhD Thesis Submission

- 9.2.1 On the recommendation of the supervisor, the thesis shall be first given to GC for internal evaluation. If GC approves that the thesis is of a quality suitable for doctoral thesis, then the thesis should be submitted to PGP office for further examination.
- 9.2.2 A candidate may submit the thesis for evaluation only after the following conditions are met:
 - i. Acceptance of research articles as per para 5.9.
 - ii. Completion of minimum 02 years in PhD candidacy.
 - iii. Clearance of dues.
 - iv. Satisfactory plagiarism report from supervisor.
 - v. Recommendation of GC for external evaluation.
 - vi. Fulfilling any other conditions laid down by HEC or University.
- 9.2.3 Four soft-bound copies and one electronic copy of the thesis shall be submitted to the PGP office with the recommendation of the GC, Concerned Chairperson and Concerned Dean through QEC Department.

9.3 External Evaluation of PhD Dissertation

The PhD dissertation must be evaluated by:

- a. At least two external experts who shall be either:
 - i. PhD faculty member from the world top 500 universities ranked by the Times Higher Education or QS World Ranking in the year corresponding to dissertation evaluation year
OR
 - ii. Pakistan-based Distinguished National Professors, Meritorious Professors from any national university; Professors from top universities ranked by HEC; Professors from any Pakistani University having a minimum H-Index 30 for Sciences, 15 for Social Sciences or 8 for Art & Humanities as determined by Web of Science.

OR

- b. At least one external expert qualifying any one of the conditions mentioned at 'a' above if the

PhD candidate publishes dissertation research in a peer-reviewed journal that is classified by the HEC in category W for Sciences and X or above for Social Sciences.

9.4 Guidelines for Selection of External Evaluators

9.4.1 The following general guidelines shall, at least, be observed while selecting external evaluator:

- i. Relevance of Expertise: in the same or related fields as in the dissertation.
- ii. No Conflict of Interest: in personal, financial, or professional stakes in a particular decision or outcome.
- iii. Objectivity: capable of making unbiased evaluations.
- iv. Diversity: in terms of geography, culture, professional backgrounds etc.
- v. Reputation: must be good in the field, with a track record of fair and thorough evaluations.
- vi. Availability: should have the time and availability to review the dissertation.
- vii. Professionalism: capable of conducting themselves in a professional and respectful manner throughout the evaluation and defense process (if applicable).
- viii. Communication: capable of providing clear and constructive feedback on the dissertation.
- ix. Confidentiality: capable of maintaining confidentiality and protecting the intellectual property of the dissertation.
- x. Compatibility: well-versed with the research methodology, approach, and theories used in the dissertation.

9.4.2 The Vice Chancellor shall appoint the external foreign evaluators considering the list of names suggested by the supervisor. The supervisor shall suggest at least five names of potential foreign evaluators, considering the following parameters:

Relevancy, No Conflict of Interest, Objectivity, Diversity, Reputation, Availability, Professionalism, Communication, Confidentiality, Compatibility.

9.4.3 Evaluation report by the evaluator(s) (as per section 9.3) has to be positive before the student can be asked to carry out final defense.

9.5 Thesis Open Defense

9.5.1 An open defense of the dissertation is required after positive evaluation of the dissertation. In general, the following minimum principles and guidelines shall be ensured:

- i. **Public Announcement**: On the university website and other forums of communication, so that anyone interested can participate.
- ii. **Public Access**: Within or outside the university such as community/town halls or important public venues.
- iii. **Neutral Chair**: To ensure that defense was conducted fairly and in accordance with the rules and regulations.
- iv. **Review Committee**: To evaluate the dissertation and defense.
- v. **Presentation**: of the dissertation by the PhD researcher
- vi. **Question and Answer Session**: To provide a basis for defense evaluation.
- vii. **Objective Evaluation**: based on the quality of the research and the researcher's ability to defend.

9.5.2 The Vice Chancellor shall appoint the PhD Defense Committee to conduct open defense. The committee shall be composed of the following members:

1. Concerned Dean or Chairperson of the department
2. One Internal Examiner
3. One External Examiner

9.5.1 The student shall give the seminar which will be open to all including invitees followed by close examination by the Defense Committee.

9.5.2 The Defense Committee shall express the FINAL Decision in the following terms:

- Pass or
- Pass with minor amendments or

- Deferred for resubmission and re-defense or.
- Fail (in exceptional circumstances and for the reasons to be recorded by the defense committee)

9.5.4 The Defense Committee shall inform its decision to the PGP office which will forward it to BASR for approval.

9.5.5 The final version of the thesis shall be checked for plagiarism by PGP Office, according to HEC Guidelines.

10 Plagiarism and Similarity Test

10.1 Under no circumstances shall a dissertation based on plagiarized research be acceptable. It is the primary responsibility of both PhD researchers and their supervisors to prevent plagiarism. To avoid plagiarism, it is important to follow the provisions outlined in this document i.e., Governing Research Supervision and Research Ethics.

10.2 If a PhD dissertation is found to be plagiarized, it will be handled in accordance with the Anti-Plagiarism Policy issued by the Higher Education Commission, Pakistan, as updated from time to time.

10.3 A similarity test in accordance with the HEC's Anti-Plagiarism Policy, must be conducted on the dissertation before its submission to the external experts by the student.

10.4 Further details on "Guidelines to Ensure Academic Research Integrity", "Guidelines on ethics of Using Similarity Detection Software for Administrators", "Guidelines on ethics of Using Similarity Detection Software for Instructors" and "Guidelines on Interpreting Originality Reports" are available in "SSUET Plagiarism and Similarity Test Policy".

11 Managing the Grievances of Graduate Students

Complete details on managing Grievances of Graduate Students are available in "SSUET Grievances Policy"

12 Withdrawal / Drop from PhD program

A student shall be withdrawn / dropped from the PhD degree programme under following conditions:

12.1 Does not register in any semester within one year of obtaining provisional admission.

12.2 Does not register for two consecutive semesters without informing and without approval of BASR.

12.3 CGPA remains below 3.0 on completion of coursework even after availing the chances for improvement of grades.

12.4 Fails to complete coursework requirements within maximum allowed time.

12.5 Fails twice in Part A or Part B of the Comprehensive Examination.

12.6 Fails to complete PhD degree requirements within maximum allowed time.

12.7 On consistent unsatisfactory academic performance when recommended by the GC, and approved by the BASR.

12.8 On disciplinary grounds when recommended by the respective Discipline Committee.

12.9 A student can seek withdrawal from PhD programme at any stage of candidature by requesting BASR through PGP office.

13 Violation of HEC Rules

Section 7.3 of HEC's letter no. 15-54/Coord/2019/HEC/(QAD)/560 dated 10th July 2023, is attached as Annex 'A' for reference and compliance by all concerned. The Annex may be amended/replaced when and if HEC revises its policy.