

ॐ अमृतेश्वर्यै नमः



AMRITA VISHWA VIDYAPEETHAM

*Ph.D. (Doctor of Philosophy) Program
Policies and Procedures*

(Also known as: Ordinances, Rules and Regulations)

(HEALTH SCIENCES)

August, 2011

PREAMBLE

1. The name “Amrita Vishwa Vidyapeetham” will be abbreviated as “the University” in this document.
2. For the purpose of this document, Centres shall be considered as equivalent to Departments, and Centre Heads as equivalent to Department Chairs.
3. The Chairman, University Level Committee for Post Graduate Programmes (or another title, as appointed by the Vice Chancellor with responsibilities stated herein), hereafter referred to as Dean, PGP, has primary responsibility over Ph.D. Programs in the University.
4. The Dean, PGP shall work closely with the Deans of Schools/ Campuses , Principals of Schools and Chairmen-PGP to ensure the successful conduct of the Ph.D. programs, and shall report all major actions to the Vice Chancellor for approval.
5. The award of Ph.D. Degree shall be in accordance with the Policies and Procedures of the University, as well as other Ordinances, Rules, and Regulations of the University.
6. The Chairman, PGP (in a Campus) will have the over all responsibility for the Ph.D Programme in that particular Campus. It is possible that there is more than one Chairman, PGP in that Campus. The Dean of the Campus/ Dean of the School/ Principal of the School/or a Senior Professor can be appointed as the Chairman, PGP. The Chairman, PGP will work closely with the Dean, PGP at the University level.

POLICIES

1. Completion of a minimum post-graduate/ doctoral level coursework of 12 credits for students entering with ME/ M.Tech./M.S./M.D. or equivalent degree; a minimum post-graduate/ doctoral level coursework of 21 credits for students entering with BE/ B.Tech./BS/ MSc/ MCA or equivalent; a minimum post graduate/ doctoral level course work of 18 credits for those with MBBS plus PG Diploma/ three years MSc after a three years BSc or equivalent.; and independent research leading up to a successful defense of a Doctoral Thesis are required for the award of the Ph.D. degree. The Doctoral Committee may prescribe more course work than the minimum credits prescribed whenever it is required. In addition, every doctoral student has to successfully complete the course “Research Methodology”. This is over and above the credits requirements specified above.
2. The Board of Management alone will have the power to add/make amendments to the Policies as deemed fit from time to time.

PROCEDURES

1. AUTHORIZATION TO OFFER Ph.D.

A Department (or Center) or School/ Campus of the Amrita Vishwa Vidyapeetham, intending to offer a Ph.D. Program is required to make a Ph.D. approval application through the Chairman, PGP to the Dean, PGP. Such an application must include faculty who will be serving as Ph.D. advisors and their areas of specialization, suggested course work structure, and other faculty from within and outside the University who can assist with the Ph.D. program together with all of their specialities.

The Dean, PGP will forward the application with his or her recommendation to the Vice Chancellor for approval.

If approved, the Ph.D. Program will be known as: Ph.D. in <Name of the Department/Centre> (Area of Specialization). For example, if the Ph.D. is being offered in the field of Molecular Medicine with specialization in Genetics, it will be called Ph.D. in Molecular Medicine (Genetics). However, the Degree Certificate will mention only the title of the Thesis, the School and, the Department or Centre where student is registered. The University will encourage interdepartmental/ interdisciplinary research.

2. ADMISSION

2.1 Eligibility

The applicant should possess (a) or (b) :

(a) ME/ M.Tech/ MS/ MD or equivalent

(b) BE/ B.Tech/ BS/ M.Sc/ MCA/ MBBS plus PG Diploma or equivalent

Applicants should show evidence of strong academic record. Excellent test scores on standardized graduate aptitude tests such as GATE, GRE, UGC Net or CSIR Net and publications in recognized conferences and journals are examples of such evidence.

2.2 Application

The call for applications will generally be posted twice a year on the University website, accessible via <http://www.amrita.edu>. However, the University will accept applications throughout the year. Each Applicant should submit, in addition to his or her degree certificates and grade/ mark sheets, and other documents mentioned in the application, a Statement of Purpose (describing his or her research interests) together with the completed application, and mention up to three areas of interest in the order of preference for PhD programme.

2.3 Entrance Test and Interview

The Chairman, PGP will screen the applications and call the selected applicants for an entrance test followed by an interview. The Selection Committee constituted by the Chairman, PGP will examine the applicants' background and aptitude for research. Based upon the entrance test and interview performance and prior academic record, the Committee shall give its recommendation to the Chairman, PGP who will finalize the admission and notify the selected applicants the date of joining. All prospective thesis advisors may be involved in the selection process and their consent obtained before being appointed as the Thesis Advisor for any applicant.

Whenever required, the Committee may request additional evidence, such as letters of recommendation, copies of claimed publications, etc.

2.4 Categories of Admission

There are two possible categories of admission for any applicant:

a. Full-time doctoral students: Such students are entirely focused on carrying out their course work, research, and other requirements of the Ph.D. Program at the University.

Students admitted under this category may be employed as project staff on a research project; however, the research project must have the student's thesis advisor as either a PI or a Co-PI, and the subject areas of the research project and the student's proposed doctoral research should overlap.

b. Part-time doctoral students: Such students are either full-time employees (e.g., faculty or project staff not covered under (a)) of the University, or employees of other organizations (such as other colleges, Universities, R&D Centers, etc.). They are permitted to proceed at a slower pace in their Ph.D. Program at the University.

3. DEGREE REQUIREMENTS

3.1 Thesis Advisor and Doctoral Committee

Every doctoral student is assigned a Thesis Advisor and a Doctoral Committee by the Chairman, PGP at the time of admission to the Ph.D. Program. The Thesis Advisor shall be a regular, or emeritus faculty member of the University with a Ph.D. or MD or DM degree and established research record. Adjunct faculty can be involved as Co-Advisors. If the faculty member from Amrita is without sufficient Post Doctoral experience, a senior faculty member will be associated as a Co-Advisor. The Doctoral Committee will consist of the Thesis Advisor, a Convener to be appointed by the Chairman, PGP and a faculty member from the Department from which the doctoral student credits the minor course (see section 3.2, Course Work). In addition, if in case the Doctoral Student has been assigned a Co-Advisor, the Co-Advisor automatically becomes a member of the Doctoral Committee. Each member of the Doctoral Committee must necessarily have a Ph.D. or MD or DM degree. The Doctoral Committee will be responsible for all academic matters connected with the Ph.D. Program of the Doctoral Student, including prescribing the Course Work, monitoring the progress of the Doctoral Student, and suggesting the panel of examiners for Comprehensive Oral Examination/ Thesis Evaluation etc.

Generally, a faculty member may not serve as the Thesis Advisor for more than five doctoral students and, under exceptional cases not more than eight at a time.

3.2 Course Work

A Doctoral student is expected to complete the prescribed courses (spelt out under Policies) as part of his or her doctoral program. The course work for a Doctoral Student is proposed by the Doctoral Student's Thesis Advisor, keeping in view the Doctoral Student's research interests, background and preparation needed to carry out the research. The course work so proposed will be submitted by the Doctoral Committee of the student to the Chairman, PGP for approval. All the courses shall be University approved courses. A Doctoral Student may be permitted to transfer a limited number of courses which he or she has completed in the recent past at another reputed University or at Amrita itself. The number of credits so transferred shall not exceed 50% of the credits required. It is necessary that the external students become full time scholars in the University till they successfully complete the credits required. It is necessary that they (includes all the Ph.D Scholars) earn a minimum of "B"Grade in all the courses including those transferred from other Institutions. The courses completed for the award of another degree will not be eligible for transfer. The Doctoral Student may also be permitted to take a limited number of courses from another reputed University which will form part of the credits transferred from another Institute.

All doctoral students have to complete a Minor Course of 3 credits from another Department (in the same or another School of the University). It is essential that the Minor Course does not have any significant overlapping with the research area of the Doctoral Student.

3.3 Residency Requirement

Every research scholar has to have a minimum residency period of one academic year including the time spent on the course work.

3.4 Comprehensive Oral Examination

After the successful completion of the course work, all doctoral students must take a Comprehensive Oral Examination normally within a period of 2 years after the registration. The Doctoral Committee frames the syllabus for the examination and suggests names of experts in the area to serve as examiners. The Chairman, PGP chooses two examiners who along with the Doctoral Committee form the Comprehensive Oral Examination Committee. The Convener of the Doctoral Committee will be the Convener of the Comprehensive Oral Examination Committee. If the candidate fails in the first attempt, a second chance will be given for the candidate to take the examination after a period of three months, but within six months. Under extraordinary conditions, a third chance may be given and, if the candidate fails in the third attempt also, he/she is required to quit the programme.

The Chairman-PGP will issue a certificate to those who have successfully completed the Comprehensive Oral Examination.

3.5 Changes in Thesis Advisor and/or Doctoral Committee

After the passing of the comprehensive oral examination, a doctoral student will have the option to request changes to his/her Thesis Advisor and/or Doctoral Committee. If the request is due to changes in his/her research topic/areas, it is the responsibility of the (new) Doctoral Committee to ensure that the research scholar acquires enough knowledge to proceed with the research programme. Such changes are to be approved by the Chairman, PGP. Under special circumstances, such changes may be permitted at any stage.

3.6 Independent Research

A Doctoral Student is expected to carry out independent research work under his/her Thesis Advisor.

3.7 Thesis Proposal and Advancement to Candidacy

Within one year after the successful completion of the comprehensive oral examination, the Doctoral Student is required to present his/her thesis proposal to the Doctoral Committee for approval.

3.8 Seminar

After advancement to candidacy, all research scholars are required to present two seminars (open to public) on their research. This will help in getting the feed back and comments on the research work which may be suitably incorporated in the thesis. The seminar notice will be displayed in all the Departmental notice boards at least a week in advance and a copy sent to the Chairman-PGP.

3.9 Publication

Every research scholar is expected to have at least one paper in the area of doctoral research accepted for publication in reputed refereed International Journal/ Proceedings of a International Conference before submitting the Thesis Synopsis. The paper will have the name(s) of the Thesis Advisor(s) also in addition to the PhD Scholar as authors. It is necessary that the affiliation is clearly mentioned as “Amrita Vishwa Vidyapeetham”. The International Conferences should be sponsored by reputed International Professional Bodies. The Chairman-PGP, in consultation with the experts in the area will decide whether the publication is of the required quality. It is necessary that the Journal is listed/ indexed in SCOPUS also.

3.10 Thesis Synopsis and Pre-Defense

Once the Thesis Advisor is satisfied that the caliber and quantum of the research work carried out by his/her research scholar is sufficient for the award of a Ph.D. degree by the University, the research scholar is required to submit a synopsis as well as present a seminar to the Doctoral Committee. The synopsis and the seminar presentation may both be repeated until the Doctoral Committee is satisfied that the research scholar is ready to start writing his/her thesis.

The Doctoral Committee forwards five copies of the Research Scholar's Thesis Synopsis, together with the names, designation and complete postal addresses as well as e-mail IDs of at least eight experts (mentioning their area of research) to evaluate the Research Scholar's Thesis, to the Chairman-PGP. The experts suggested to evaluate the Research Scholar's Thesis are required to be external to the University from leading academic/ R & D Institutions including four from outside the country.

The Synopsis should be about twelve pages and include an Introduction, Objectives of the Research, a brief Literature Survey, a detailed report on the Experimental and/or Theoretical Investigation, important Figures and Photographs, a few References and the important Conclusions drawn. The Synopsis is to be submitted about six weeks in advance of the probable date of submission of the Thesis.

The Synopsis and the Thesis should be in A4 size paper using Times New Roman font size 12. The thesis should be typed only on one side of the paper.

3.11 Thesis Submission and Evaluation

The Research Scholar should submit five copies of his/her thesis to his/her Doctoral Committee, preferably within a period of six weeks from the date of submission of the synopsis and the Convener will then forward the same to the Chairman-PGP. Normally, from the list of Reviewers received from the Doctoral Committee, the Chairman-PGP forwards the Research Scholar's submitted Thesis to two Expert Reviewers who have agreed to evaluate the thesis based on the synopsis. Since the Thesis Advisor is also an examiner, a copy of the thesis is sent to him/ her also.

Each Reviewer can give one of three possible evaluation Reviews: (i) Accept, (ii) Accept with Modifications, or (iii) Reject.

- If all the three Reviewers give "Accept", or if one/ two of the Reviewers give "Accept" and the other(s) gives "Accept with Modifications", or if all the three Reviewers give "Accept with Modifications", the Research Scholar can proceed to Thesis Defense after incorporating the suggested modifications.
- If two of the Reviewers give "Reject", the Thesis is rejected, and the Research Scholar is required to exit the Ph.D. program.
- If one of the Reviewers gives "Reject", the Chairman-PGP will send the Research Scholar's Thesis to a chosen fourth (external) Reviewer. If the fourth reviewer also rejects, the Research Scholar is required to exit the Ph.D. program. If the fourth reviewer gives "Accept" or "Accept with Modifications", the Research Scholar can proceed to Thesis Defense after incorporating the suggested modifications.

- If any of the Reviewers makes a qualified recommendation without suggesting specific revisions, the Chairman-PGP will consult an internal expert group to arrive at an appropriate solution for the problem.

The modifications include carrying out additional work to meet the required quantum of work in addition to quality. The Doctoral Committee has to ensure that the modifications suggested are carried out and the same is approved by the Chairman-PGP before proceeding to the Thesis Defense.

The Thesis should show evidence of critical evaluation and judgment and good mastery of the background literature of the subject of research, as well as the Research Scholar's capacity to relate his/her specialized research to the broader framework of the general discipline within which it falls. It should display a substantial, original and creative contribution to the advancement of scientific, engineering, and/or technological knowledge, design or development, in the widest sense to include instrumentation and applied work of an innovative nature.

The exact format of the submission to be followed etc. will be available in the office of the Chairman-PGP.

It is recommended that the external reviewers be given at most eight weeks to reply with an evaluation.

3.12 Thesis Defense and Final Recommendation

The date, time, venue and title of the Thesis will be announced widely and well in advance to enable all those interested to participate.

The Thesis Defense is a Seminar Presentation by the Research Scholar and he is required to give an account of the research work reported in the thesis highlighting the main contributions made which is open to all. This will be followed by an in camera oral examination by the Thesis Defense Committee consisting of the Doctoral Committee and at least one of the external experts who evaluated the thesis. The Convener of the Doctoral Committee serves as the Convener of this Committee. If even one of the external examiners could not be present, the substitute examiner identified by the Chairman-PGP will be present. The candidate has to answer the queries raised by the thesis examiners. For this purpose, the examiners reports will be made available to all the members of the Thesis Defense Committee. The examiners are free to cover the general background of the subject in the light of the requirements for the thesis. Where part of the work has been undertaken jointly with others, the examiners should satisfy themselves as to the adequacy of the candidate's own contribution.

A pass in the oral examination is compulsory. If a candidate fails in the oral examination in the first instance, he/she may be allowed to appear once again after a lapse of three months, but not later than six months from the date of first appearance. A candidate who fails once again in the reexamination shall not be eligible for the award of the degree.

If the candidate passes the oral examination, the Thesis Defense Committee shall consolidate the recommendation for the award of the PhD Degree based on:

- i Report of the examiners who evaluated the thesis and,
- ii. Evaluation of the candidate's performance in the oral examination

The consolidated recommendation shall be forwarded by the Convener of the Thesis Defense Committee to the Chairman-PGP. The Chairman-PGP forwards the same to the Dean-PGP with

the required enclosures (see annexure) who in turn submits the same to the Vice Chancellor for his approval. After the Vice Chancellor's approval, the Dean-PGP issues the Provisional Certificate to the Scholar.

The candidate should submit one corrected hard copy of the Thesis (for the University library) as well as one soft copy of the thesis in a CD and one soft copy of the Synopsis (refer 3.10) in a CD (for UGC).

3.13 Award of the Ph.D. (Doctor of Philosophy) Degree

Upon approval by the Vice Chancellor, and subsequent ratification by the Academic Council and the Board of Management of the University, the Research Scholar will be presented to the Chancellor (or Chancellor's nominee) for award of the Ph.D. Degree at the next Convocation of the University.

4. PROGRESS REPORTS, DURATION, APPEALS AND AMENDMENTS

4.1 Progress Reports

Every six months, the Doctoral Committee is required to submit a half yearly progress report to the Chairman-PGP. The Chairman-PGP will also hold periodical reviews of all doctoral students and research scholars in a meeting with all of the thesis advisors and selected additional members present. Continued absence of satisfactory progress, as determined by Chairman-PGP, may be sufficient grounds for (i) discontinuation of any fellowship or assistantship that has been previously awarded to the Doctoral Student or Research Scholar, or even (ii) dismissal from the Ph.D. program.

The Office of the Chairman-PGP will maintain a specific format for the submission of the progress report.

4.2 Duration

The normal period of completion for a full-time doctoral student with ME/ MTech/ MS/ MD or equivalent is 4 years; the minimum being 3 years and maximum being 6 years. In the case of part-time doctoral students (including external candidates), as well those admitted with BE/ BTech/ BS/ MSc/ MCA/ MBBS plus PG Diploma or equivalent, the corresponding periods are extended to 5 years, 4 years and 7 years, respectively. Under special circumstances, the Chairman-PGP can approve deviations for which the Thesis Advisor has to make a written request, in time, enclosing a brief report of the work done and explaining the need for the deviation.

4.3 Appeals

A Doctoral Student or Research Scholar may appeal to the Chairman-PGP through the Thesis Advisor/ Chairman of the Department for a waiver/substitution of any requirements, rules, or regulations as they pertain to his or her specific situation. Escalation steps for such appeals consist of forwarding to the Dean-PGP and if unresolved, thereafter to the Vice Chancellor, whose decision is final and binding.

4.4 Amendments

Amendments to these procedures may be made with the approval of the Vice Chancellor and subsequent ratification by the Academic Council and Board of Management.

For Vice Chancellor's Approval

When the entire process for the award of Ph.D is complete, the Chairman – PGP of the Campus/ School has to write to the Dean - PGP (in the University Head Quarters) enclosing the following:

I. Oral Examination Report (Should contain)

1. Main Contributions made by the Supplicant, limited to two pages
2. Summary of the Reviewers' Comments, Reviewer wise, limited to two pages
3. An account of the Open Oral Examination, limited to one page
4. An account of the In-Camera Oral Examination, limited to one page
5. Recommendation regarding the acceptability of the:
 - (a) Candidate's written replies to the Reviewer's comments, queries etc., if any
 - (b) Status of corrections/ modifications made in the Thesis' if any
6. One page Abstract of the Thesis
7. List of Corrections/ Modifications incorporated in the Thesis, if any
8. Completed Check List (format enclosed)
9. Final Recommendation*

All the documents are to be signed by the Thesis Advisor. In addition, all the members of the Thesis Defense Committee (Members of the Doctoral Committee and the external expert) have to necessarily sign I.8 and I.9.

* To read like this:

“Based on:

- i. The contributions made by the Supplicant as reported in the thesis entitled “-----
-----”,
- ii. Reports of the Reviewers who evaluated the thesis,
- iii. Satisfactory performance of the Supplicant in the Open Oral Examination, and
- iv. Satisfactory performance of the Supplicant in the In-camera Oral Examination,

We recommend the acceptance of the thesis for the award of the PhD Degree of Amrita Vishwa Vidyapeetham to Mr/ Ms-----”

II. Enclosures to the Oral Examination Report

In addition to the documents listed above, one hard copy and one soft copy(in a CD) of the (corrected/ modified) Thesis are to be enclosed. Further, a soft copy of the Synopsis (refer 3.10) should be also submitted in a CD. It should mention the Title of the Thesis, Name of the Student, Year of Registration, Name of the Department where registered, Name(s) of the Thesis Advisor as well as the Co Advisor if applicable, Name of the School, and, Name and Address of the University.

Note:

The month and year in the thesis (to be lodged with the University) should be the month and year of the Thesis Defense. The date of declaration etc should be the date of the Thesis Defense.

III. To be appended (in addition to the above, the following information should be also provided)

1. Date of receipt of Application
2. Date of constituting the Selection Committee including the list of Members.
3. Date of Recommendation Letter from the Selection Committee
4. Date of Admission offer letter
5. Date of Admission (i.e. the date on which the required fees was paid)
6. Roll Number
7. Doctoral Committee Members list
8. Date of completion of course work
9. Date of successful completion of the Comprehensive Oral Examination including the list of Committee Members
10. Dates of Two Seminars
11. Details of Publication (Title of the paper, Name of the Journal and Publisher's address, Volume and Page number; in case of Conferences, in addition to the paper details, the details of the Professional Bodies sponsoring are to be given)
12. Date of Synopsis Submission
13. Date of Thesis Submission
14. Date of Thesis Defense

CHECK SHEET FOR THE ORAL EXAMINATION

For use by the Thesis Defense Committee. To be returned to CPGP after completion.

Name of the Candidate :
Degree Registered : Ph.D
Register Number :
Date and Place of Oral Examination :

We Certify that the Consolidated Report Contains the Following:

1. Main Contributions made by the Supplicant.
2. Summary of Reviewers' Comments
3. An account of Open Oral Examination
4. An account of In-Camera Oral Examination
5. Recommendation regarding the acceptability of the:
 - (a) Candidate's written replies to the examiners' comments, queries etc., if any
 - (b) Status of corrections/ modifications made in the Thesis, if any
6. A FINAL RECOMMENDATION regarding the acceptability of the Thesis for the award of the Ph D Degree of the University
7. Enclosures:
 - (a) One page abstract of the Thesis
 - (b) Corrected/ modified copies of the Thesis (one hard copy and one soft copy in a CD)
 - (c) Soft Copy of the Synopsis (as explained under "Enclosures to the Oral Examination Report") in a CD
 - (d) List of corrections/ modifications incorporated in the Thesis, if any

Name of the External Examiner Signature

Name of the Member, Doctoral Committee Signature

Name of the Thesis Advisor Signature

Name of the Convener, Doctoral Committee Signature

Research: Meaning, Purpose, Types of Research, Steps in Research, Identification, Selection and Formulation of Research Problem, Research Questions, Research Design, Formulation of Hypothesis, Review of Literature. Internet as a source in identifying gap areas from literature reviews and emerging trends. Sampling Technique: Types of Sampling, Steps in Sampling, Sample Size, Advantages and Limitations of Sampling.

Data for Research: Primary Data, Collection Methods, Observation, Interview, Questionnaire, Pretest-Pilot test, Experimental and Case Studies, Secondary Data, Relevance, Limitations and Cautions. Processing Data: Checking, Editing, Coding, Transcriptions and Tabulation. Data Analysis- Meaning and Methods- Quantitative and Qualitative Analysis. Statistical Tables, Diagrams and Graphs, Measures of Averages, Measures of Dispersion, Correlation Analysis and Regression Analysis.

Familiarization of Spreadsheet Tools, Presentation Tools and Writing Tools, Structuring the Report, Pagination, Identification, Presenting Footnotes, Abbreviations, Presentation of Tables and Figures- Referencing- Use and Format of Appendices, Indexing.

Research Report: Types of Reports- Styles of Reporting- Steps in Drafting Reports-Editing and Evaluating the Final Draft. Developing a Proposal and Working in a Research Team. Critical Appraisal of Published Research: Guidelines for Appraisal.

Ethical Issues, Copyright, Royalty, Intellectual Property Rights and Patent Law, Reproduction of Published Material, Citation and Acknowledgement

TEXT BOOKS/ REFERENCES:

1. CR Kothari, "*Research Methodology-Methods and Techniques*", New Age International Publishers, 2004
2. Jacques Barzun and Henry F. Graff, "*The Modern Researcher*", Sixth Edition, Wadsworth Inc Fulfillment, 2003
3. Carlo Lastrucci, "*The Scientific Approach: Basic Principles of the Scientific Method*", Cambridge, Mass. Schenkman, 1967

