



# POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

PUP San Pedro Campus  
San Pedro, Laguna

**ACCREDITING AGENCY OF CHARTERED COLLEGES AND UNIVERSITIES  
(AACCUP)**



**AREA V: Research**

**Bachelor of Secondary Education**  
Major in  
**Mathematics**



- ❖ C.1. Copy of the Research Manual;
  - Copy of the Research Manual with proof of copyright

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## **UNIVERSITY RESEARCH AGENDA**

As a state university with the largest number of enrollees belonging to the marginalized sector of society, the research program of the Polytechnic University of the Philippines (PUP) is directed at social capital and innovation towards inclusive growth for national development. Research in the university, being the primary source of new knowledge and a laboratory of highly competent and skilled human capital, is an incubator of innovations and technologies with the end goal of economic growth of the country and the community.

The focus of the research program of the University is multi-, inter and trans- disciplinary and collaborative in nature, with emphasis on sustainable development, answering especially questions such as "what kind of research is done?", 'what are the objectives?', and 'what impact will the research have?' The University's research program is complimentary to research and development (R&D), technology transfer, innovation and commercialization activities.

### **Research Policy Statement**

Research is one of the major functions of higher educations. Thus, the University encourages its faculty members, non-teaching personnel and students to be actively engaged in research undertakings to ensure the continued growth and development of PUP as a higher education institution.

### **Research Principles**

Research undertakings in the University shall be guided by the following general principles set by the Higher Education Research Agenda-2 (NHERA-2) of the Commission on Higher Education (CHED):

1. Research is the ultimate expression of an individual's innovative and creative powers. PUP shall ensure that the academic environment nurtures and supports research talents.
2. Research thrives in an environment characterized by free flow information, honest and analytical exchange of ideas, and supportive policy and administrative structures. PUP policies shall enhance the institution's and the individual's capacity to conduct independent, collaborative and productive research.
3. Research is one of the functions of higher education sector. PUP is expected to lead the conduct of disciplined-based, policy-based, technology-based and innovative/creative researches that are locally responsive and globally competitive.

### **'University Research' Defined**

Research is defined as a structured inquiry that utilizes acceptable scientific methodology to solve problems and creates knowledge that is generally applicable" (Grinnell, 1993).



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University research must advance the University Research Agenda of bridging the gaps in the programmed body of knowledge that the university is building up. Researchers can be initiated and conducted the following:

- an individual faculty member;
- an individual non-teaching personnel;
- a group of faculty members belonging to one department/college/branch;
- a group of non-teaching personnel belonging to the same office;
- a group of faculty members and/or non-teaching personnel from different departments/colleges/branches/campuses/offices;
- an academic department;
- a college/branch/campus;
- a student or a group of students belonging to one department, college or branch/ campus.

Only those researches that fit the definition of university research and approved by the University Research Evaluation Committee (UREC) can avail of material, technical and/or financial support from the University.

In particular, the research sector shall play a significant role in the realization of the University's envisioned society' of (1) sustainable human development; (2) democratic and good governance; (3) respect for cultural diversity and strengthened national identity; (4) technology with human touch; and (5) ecological harmony.

### **The University Research Agenda**

The University adopts a clear, practical, and realizable University Research Agenda that is meant to (1) be aligned with the strategic plan of the University; (2) unify the direction and framework of the research activities of the University; (3) align the research efforts of the University with the thrust and priorities of national government agencies e.g. Department of Science and Technology (DOST), National Economic and Development Authority (NEDA), Commission on Higher Education (CHED), among others; and (4) generates researches, scientific, social, cultural and technological development'.

The University Research Agenda is categorized into five general themes, to wit: (1) poverty reduction peace and security; (2) accelerating infrastructure development through science and technology; (3) competitive industry and entrepreneurship; (4) social and cultural development; and (5) conservation, protection and rehabilitation of the environment towards sustainable development.



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## **I. Introduction**

The Polytechnic University of the Philippines expects students to produce original researches that manifest their ability to undertake and present quality written outputs that will contribute to the advancement of knowledge in their respective fields of study. It is required that the chosen research topic of the thesis or dissertation falls within the program research agenda as defined by the University (see Appendix 1: University Research Agenda).

In writing a thesis or dissertation, students shall comply with the standards set by PUP. They are responsible for consulting the college/graduate school office regarding the requirements for writing their manuscripts and are discouraged from just following the format of another thesis or dissertation.

The college/graduate school approves the final thesis or dissertation and reserves the right to reject documents that deviate from the guidelines specified in this manual. Students are advised to read this manual carefully, paying close attention to the details of manuscript preparation, including the samples in the Appendices. In addition to structural formatting, they are also responsible for assuring that their manuscript follows conventional rules of grammar, punctuation, and spelling. The University requires that they seek the assistance of a professional editor to help them improve their work.

## **III. Application for Thesis/Dissertation Writing for Graduate Programs**

1. The following steps shall be followed in applying for thesis/dissertation writing: After passing the comprehensive examinations, the researcher shall submit his research proposal to the Program Chair who will recommend the adviser and panel of examiners to the Dean.

2. After the approval of the research proposal, the researcher shall enroll in the Thesis/Dissertation Writing course and pay the thesis proposal fee, together with the originality check processing fee.

3. Once enrolled, copies (four [4] for thesis, and five [5] for dissertation) shall be submitted to the Program Chair. The chair shall recommend the research proposal to the dean and the tentative date for the title defense.

4. The Dean shall endorse the proposal to a Thesis/Dissertation Evaluation Committee composed of the adviser and evaluators (two for the thesis and three for the dissertation). See Appendix 2: Functions of the Thesis/Dissertation Evaluation Committee.

## **IV. The Three-Tiered Defense Process for Graduate Programs**

### **First Stage: Proposal Presentation**

The student shall present his proposal to the Thesis/Dissertation Evaluation Committee. After the presentation, the secretary shall provide the student with a summary of the recommendations to serve as his guide in making the necessary revisions.



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To proceed to the second stage, the researcher shall submit to the office (Graduate School/Open University System/College of Education--Graduate Studies) a copy of the Certification for Approved Research Proposal before the data-gathering and the rest of the thesis-/dissertation-writing process.

### **Second Stage: Pre-oral Defense**

Upon the completion of Chapters 4 and 5 of the paper and the endorsement of the adviser and the Program Chair, the student shall proceed with the Pre-oral Defense. During this stage, the completed research shall be presented for evaluation by the same thesis/ dissertation committee (see Sec. V for the complete parts of the thesis/dissertation).

Four (4) copies of thesis or five (5) copies of dissertation together with the proof of payment of the pre-oral fee shall be submitted to the concerned Office at least seven (7) days before the scheduled defense.

The student shall submit to the Office a copy of the Certification for Oral Thesis/ Dissertation Defense.

### **Third Stage: Oral Defense**

After complying with the pre-oral recommendations, and upon the endorsement of the adviser to the Program Chair as approved by the Dean/Executive Director, the student shall now proceed with the Oral Defense.

Six (6) copies of thesis or seven (7) copies of dissertation shall be submitted to the Office at least seven (7) days before the Oral Defense schedule. These copies shall be distributed to the members of the Panel on Oral Examination (POE), the adviser, and the Secretary.

The Program Chair shall recommend to the Dean/Executive Director the Panel on Oral Examination (POE) who shall conduct the final evaluation of the thesis/dissertation. The POE shall be composed of a chair and three members for a thesis while a chair and four members for a dissertation. The thesis/dissertation evaluators during the proposal defense, excluding the adviser, shall also be members of the POE. When necessary, a non-PUP faculty member or outsider (researcher or practitioner from any other university/ agency) may sit as a panel member upon the approval of the Dean/Executive Director (see Appendix 7: Functions of the Panel on Oral Examination).

The members of the POE shall submit their final evaluation of the thesis/dissertation with their comments/ recommendations. The secretary shall provide the student with a summary of the recommendations to serve as guide in making the revisions for the final copy which is a graduation requirement. See Appendix 8: Oral Defense Evaluation Sheet.



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## V. Parts of a Thesis/Dissertation

The parts of the thesis/dissertation for pre-oral and oral defense shall be as follows:

Preliminaries  
Copyright Page  
Title Page  
Certification-and-Approval Sheet  
Acknowledgments  
Certification of Originality  
Abstract  
Table of Contents  
List of Tables  
List of Figures

NB: Pagination of preliminaries shall be in lowercase Roman numerals placed at the bottom center of the page.

## VI. Manuscript Preparation

In the preparation of the manuscript, care shall be taken to ensure that the following specifications are followed:

### Paper and Printing Specifications

Print the final copy with a laser printer using only one side of a standard-sized PUP template (8.5 x 11 inches).

### Font Specifications

Use 11-point Arial font throughout the thesis or dissertation except when compressing a large table.

### Spacing

Double space the text; single-space long quotations, table and figure captions, and similar special materials (e.g., table legend). Type triple-spaced from the top margin, centered, boldfaced, and in ALL CAPS all headings of the preliminary section (except the Copyright Page and Title Page) and all chapter titles.

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## Margins

Leave 1.5 inches for the left margin to allow for binding and trimming and 1 inch for the top, bottom, and right margins.

## Page Numbering

Paginate the preliminaries by using lowercase Roman numerals at the center, bottom margin.

Use Arabic numerals to paginate the text, references, and appendices. Number all the pages consecutively starting at number 2 on the second page of the first chapter. The first page of each chapter, though counted, shall not be numbered.

Type the page number at the upper right-hand corner of the paper (i.e., tables and figures).

## Preliminaries

The preliminaries include the copyright page, title page, certification-and-approval sheet, certification of originality, acknowledgments, abstract, table of contents, list of tables, and list of figures.

## Copyright Page

Include a Copyright Page in each final copy to show that the research has been copyrighted and put it before the Title Page. **(See Appendix 11: Copyright Page format and text).**

Apply for the copyrighting of the manuscript at the PUP Intellectual Property Management Office. Five (5) CDs of soft copy shall be prepared for copyright purposes. Cover and Title Pages

Follow the instructions on the attached sample-form pages. Note which items are in ALL CAPS and which are not. Note the approximate size of the print **(see Appendix 9: Cover Page Format; and Appendix 10: Title Page Format).**

## Certification-and-Approval Sheet

Prepare a Certification-and-Approval Sheet. Refer to the attached sample for the wording and format that shall be followed faithfully. Include this sheet in each final copy of the research.

The **CERTIFICATION** is an attestation by the Thesis/Dissertation Evaluation Committee that the paper has been examined and recommended for oral examination. Type triple-spaced from the top margin, centered, boldfaced, and in ALL CAPS the heading **CERTIFICATION**.





The **APPROVAL** contains the formal approval or commendation of the Panel on Oral Examination (three members for a thesis and five members for a dissertation, both headed by a chair). **(See Appendix 12: Certification-and-Approval Format.)**

### **Acknowledgments**

Type triple-spaced from the top margin, centered, boldfaced and in ALL CAPS the heading **ACKNOWLEDGMENTS**. Double-space the text that begins three single spaces from the heading.

### **Certification of Originality**

Type triple-spaced from the top margin, centered, boldfaced, and in ALL CAPS the heading **CERTIFICATION OF ORIGINALITY**. Double-space the text that begins three spaces from the heading.

All copies to be submitted shall contain an original Certification of Originality bearing the actual (not photocopied) signature of the researcher.

### **Abstract**

The abstract is a brief descriptive summary of the thesis or dissertation. It contains the main objective of the study, a brief description of the research method, major findings, conclusions or main arguments, and recommendations.

Type triple-spaced from the top margin, centered, boldfaced, and in ALL CAPS the heading **ABSTRACT**. Type triple-spaced from the heading the following data that are double-spaced, flush with the left margin: thesis/dissertation title, researcher's name, degree, name of granting institution, year of completion, and adviser's name.

The abstract, which shall not exceed 250 words, is double spaced, except the title of the thesis or dissertation which is typed single-spaced. A minimum of five (5) keywords shall be written on the lower part of the abstract page with the "Polytechnic University of the Philippines" and the title of the program being constant keywords. **(See Appendix 14: Abstract Format)**

### **Table of Contents**

The Table of Contents comes after the abstract. Type triple-spaced from the top margin, centered, boldfaced, and in ALL CAPS the heading **TABLE OF CONTENTS**. Type double-spaced from the heading. It shall list all elements of the preliminaries, chapter titles, main headings, references, and appendices. The beginning page number of each section is indicated along the right margin. The numbering of the chapters and the wording, capitalization, and punctuation of titles and headings, shall be exactly the same as they are in the text.



