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SCIENTIFIC WRITING (ENGINEERING)

ROSMAWATI NAIMG
SCIENTIFIC WRITING
(ENGINEERING)
PREFACE

The rebranding of 8 modules has been approved by the UMP Senate in February 2016. The 8 modules comprise:

i. Philosophy of Science and Ethics in Research
ii. Research Overview
iii. Literature Review
iv. Methodology
v. Data Collection and Analysis
vi. Scientific Writing
vii. Preparation for viva-voce
viii. Conceptual Paper

8 modules are one of the Institute of Postgraduate Studies (IPS) initiatives in helping students to understand ways and means to carry out research at Master’s and PhD level. There are 2 sets of 8 modules provided by IPS in accordance with the technology and engineering cluster. These 8 modules are intended to help students in conducting systematic research owing to its utmost importance in determining the effectiveness and efficiency of the research process. The 8 modules shall help students to understand the research problem and identify the areas of research. The modules also assist students on how to write a literature review in order to understand how other researchers approach, define or manage the problem to keep the research pertinent to what is current in the field. In addition, 8 modules also facilitate students to understand the methods of collecting data in an organized and controlled way to achieve valid results, analyze the data according to the considered problem and make conclusions. Therefore, IPS hopes that these modules will be able to provide some insights and benefit students in conducting research at Master’s and PhD level.

INSTITUTE OF POSTGRADUATE STUDIES
UNIVERSITI MALAYSIA PAHANG
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Topic 1: Importance of Scientific Writing  
1.1 Scopes and the Needs for Scientific Writing  
1.2 Why Need to Publish Your Result?  
1.3 Doing the Writing  

Topic 2: Types of Scientific Writing  
2.1 Review Paper  
2.2 Technical Paper  
2.3 Book Chapter  
2.4 Proceeding (Abstract, Extended Abstract)  
2.5 Thesis  

Topic 3: Structure of a Good Scientific Manuscript  
3.1 Organization of a Scientific Manuscript  
3.2 Title Selection  
3.3 Abstract/ Keywords  
3.4 Introduction  
3.5 Experimental/ Methodology  
3.6 Results and Discussions  
3.7 Conclusions  
3.8 Acknowledgments  
3.9 References  

Topic 4: Style of Language  
4.1 Style of Language  
4.2 Tenses  
Activity 4.1  
4.3 Active Versus Passive Voice  
Activity 4.2  
4.4 Cohesion  
4.5 Paraphrasing  
4.6 Summarizing and Synthesizing  
Activity 4.3  

Topic 5: Ethics In Scientific Writing  
5.1 Ethics In Scientific Writing  
5.2 Plagiarism  
5.3 Strategies to Avoid Plagiarism  
5.4 Other Ethical Consideration Issues
MODULE DESCRIPTION

This module provides an overview on how to write a good scientific manuscript. There are 5 main sections outlined in this module which includes Section 1: Importance of Scientific Writing, Section 2: Types of Scientific Writing, Section 3: Content of Good Scientific Manuscript, Section 4: Scientific Style of Language and Section 5: Ethics in Scientific Writing. Section 1 explains the needs and purpose of writing a scientific article in the research and academic field. Section 2, several types of scientific writing are discussed and presented while Section 3 explains on the attributes of a good content outline used in the scientific manuscript. Section 4 emphasizes on the usage of proper English language in term of nouns and punctuations. Section 5 reflects in details the common ethical issue in writing research articles. Lastly, proper selection of journal and submission process for the journal is highlighted in Section 6.

MODULE OUTCOMES

At the end of this module, user should be able to:
1. Identify the needs and purpose of scientific writing
2. Differentiate types of scientific manuscripts
3. Outline the content of scientific manuscript
4. Apply correct language functions in scientific manuscript
5. Identify ethical issues relating to scientific writing
6. Identify suitable journal for submission and getting the manuscript published

MODULE SUBTOPIC

✓ Topic 1 Importance of Scientific Writing
✓ Topic 2 Types of Scientific Writing
✓ Topic 3 Structure of a Good Scientific Manuscript
✓ Topic 4 Style of Language
✓ Topic 5 Ethics in Scientific Writing
✓ Topic 6 Getting Your Manuscript Published
✓ Conclusion
✓ References and further reading