ಮಂಗಳೂರು   ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

MANGALORE   **UNIVERSITY**

(Accredited by NAAC)

ಕ್ರಮಾಂಕ/ No. : MU/ACC/CR 67/2020-21/A2

NOTIFICATION

Sub: Revised syllabus for Ph.D. Coursework in Computer Science
Ref: Academic Council approval vide agenda
No.: ಎಸಿಸಿ:ಶೈ.ಸಾ.ಸ.2: 18(2021–22) dated 27.10.2021

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The revised syllabus for Ph.D. Coursework in Computer Science which has been approved by the Academic Council at its meeting held on 27.10.2021 is hereby notified for implementation with effect from the academic year 2021-22.

REGISTRAR

To,

1. The Chairman, Dept. of P.G. Studies and Research in Computer Science, Mangalore University, Mangalagangothri
2. The Chairman, PG BOS in Computer Science, Dept. of P.G. Studies and Research in Computer Science, , Mangalore University.
3. The Registrar (Evaluation), Mangalore University.
4. The Superintendent (ACC), O/o the Registrar, Mangalore University.
5. The Asst. Registrar (ACC), O/o the Registrar, Mangalore University.
6. Guard File.

Mangalore University

Department of PG Studies and Research in Computer Science, Mangalagangothri- 574199.

Preamble:

As per the communication from the UGC & University (**Ref. No: MU/ACC/CR.67/2020 - 21/A2 Dated.12.08.2021**) number of courses for the Ph.D. programme course work in Computer Science has been updated totally three courses. **Course - 1: Research Methodology, Course - 2: Research and Publication Ethics [RPE] and Course - 3: Review of literature**

Accordingly PG BOS in Computer Science revised and updated the syllabus with the **Course - 1 as - CS01, Course 2 as CS02** and **Course 3 as CS03** also decided to frame the Regulation governing the Ph.D course work in Computer Science as per the norms of the University.

Eligibility for Admission: Holders of Master Degree in Computer Science/ Information Science/ Computer Science and Engineering/ Information Technology/MCA or its Equivalent

Papers	Particulars	Hours of Instruction per week	Duration of Examination (hrs)	IA	Theory	Total	Credits
Course - 1	CS01: Research Methodology	4	3	30	70	100	4
Course - 2	CS02:Research and Publication Ethics (RPE)	2	3	30	70	100	2
Course - 3	CS03: Review of Literature Review Report	16	-	-	-	150	8
	Viva	-	-	-	-	50	-
TOTAL						400	14

CS01: Research Methodology

Hours/Week: 4
Credits: 04

I.A. Marks:30
Exam. Marks: 70

UNIT – I

14 Hrs.

Fundamentals of Research: Introduction to Research issues in computer science, the objectives and dimension of research. Exploring research in computer science, browsing the periodicals sections of the library. **Tools of research:** General tools of research, library and its resource as a tool of research, the computer and its software as a tool of research, measurement as a tool as research, different measurements, statistics as a tool of research, the human mind as a tool of research, language as tool of research. Open research tools. **Focusing your research efforts:** Identifying and describing the research problem/project, stating the research problem, identifying sub - problems and its characteristics, stating the hypotheses, preparing a research proposal, a sample research proposal.

UNIT - II

14 Hrs.

Reviewing the Related Literature: Role of review, locating related literature, using library catalog indexes, abstracts, and other general reference, using the library's online database, organizing information collected, evaluating, organizing and synthesizing the literature, writing a sample research proposal. **Research planning:** planning a research proposal, basic format of a research proposal, research planning versus research methodology, general criteria for a research project, role of data in research, linking data and research methodology, comparing quantitative and qualitative approaches, **Writing the research proposal:** Organizing a research proposal, practical applications.

UNIT - III

14 Hrs.

Quantitative Research Methodologies: Descriptive research Design, correlation research, development design, computerizing data collection in descriptive research, using the internet to collect questionnaire data, choosing a sample in descriptive study, sampling design, sampling in surveys of very large population, identifying a sufficient sample size, Bais in research sampling, population analysis for a descriptive survey.. **Strategies for Analyzing Quantitative data:** Exploring and Organizing a data set, analyze data, functions of statistics, considering the nature of data, descriptive statistics, the point of central tendency, measures of variability. Dispersion and deviation, measures of association: correlation, inferential statistics, estimating population parameters, testing hypotheses, meta-analysis, using statistical software packages interpreting the data, general computational tools.

UNIT - IV

14 Hrs.

Preparing The Research Report: planning a research report, description of research, description of methods, presentation of the data, interpretation of the data, concluding the report, s graphic organizer for the research report, organizing the research report, the principles of writing, practical applications, **plagiarism:** Introduction, occurrence of plagiarism, types of plagiarism maintenance, open source plagiarism tools.

Reference Books:

1. Paul D Leedy, and Jeanne Eills Ormord, Practical Research Planning, and Design, Person publication, 11ᵗʰ Edition, 2015.(Chapters 1,2,3,4,5,6,9,11nad 12)
2. MICHAEL P. MARDER, Research Methods of Science, Cambridge University Press, 2011 (Chapter-3 & 4)
3. Diane Pecorari, Teaching to Avoid Plagiarism: How to Promote Good Source use, 2013, Open University Press. (Part-I and Part-II)

Course = 2

Hours/Week: 2
Credits: 02

I.A. Marks:30
Exam. Marks:70

CS02: Research and Publication Ethics (RPE):

Details Syllabus have been enclosed in PDF form as per the recommendation and norms of UGC.

Course - 3

Hours/Week: 16
Credits: 08

Literature Review Report Marks:150
Viva Marks:50

CS03: Review of Literature

Contents of the review of literature are based on the research field under the direction of Research Supervisor. Content of the Review report shall include the art of research work analysts, related implementation issues and motivation for the stated research problem.

Assessment of the complete course is based on the report of Literature review and concern review report viva.

Course Title:

- Research and Publication Ethics (RPE)-Course for awareness about the publication ethics and publication misconducts.

Course Level:

- 2 Credit course (30 hrs.)

Eligibility:

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

Fees:

- As per University Rules

Faculty:

- Interdisciplinary Studies

Qualifications of faculty members of the course:

- Ph.D. in relevant subject areas having more than 10 years' of teaching experience

About the course

Course Code: CPE- RPE

Overview

- This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

- Class room teaching, guest lectures, group discussions, and practical sessions.

Evaluation

- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	30

Syllabus in detail

THEORY

- **RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**

  1. Introduction to philosophy: definition, nature and scope, concept, branches
  2. Ethics: definition, moral philosophy, nature of moral judgements and reactions

- **RPE 02: SCIENTIFICCONDUCT (5hrs.)**

  1. Ethics with respect to science and research
  2. Intellectual honesty and research integrity
  3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
  4. Redundant publications: duplicate and overlapping publications, salami slicing
  5. Selective reporting and misrepresentation of data

- **RPE 03: PUBLICATION ETHICS (7 hrs.)**

  1. Publication ethics: definition, introduction and importance
  2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
  3. Conflicts of interest
  4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
  5. Violation of publication ethics, authorship and contributorship
  6. Identification of publication misconduct, complaints and appeals
  7. Predatory publishers and journals

PRACTICE

- RPE 04: OPEN ACC...

Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	4
Practice		7
RPE 04	Open Access Publishing	
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	4
	Total	7
		30

Syllabus in detail

THEORY

- ### RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)

    1. Introduction to philosophy: definition, nature and scope, concept, branches
    2. Ethics: definition, moral philosophy, nature of moral judgements and reactions

- ### RPE 02: SCIENTIFICCONDUCT (5hrs.)

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    4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
    5. Violation of publication ethics, authorship and contributorship
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    7. Predatory publishers and journals

PRACTICE

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