



NOTIFICATION

Sub: Revised syllabus for Ph.D. Coursework in Speech and Hearing.

Ref: Academic Council approval vide agenda

No.: ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.3:3 (2025) dtd 22.12.2025.

The revised syllabus for Ph.D. Coursework in Speech and Hearing which has been approved by the Academic Council at its meeting held on 22.12.2025 is hereby notified for implementation with effect from the academic year 2024-25 batch and onwards.

Copy of the Syllabus shall be downloaded from the University Website (www.mangaloreuniversity.ac.in)

 06/01/2026
REGISTRAR

To,

1. The Registrar (Evaluation), Mangalore University.
2. The Chairman, Composite Board of Studies in Speech Language Pathology and Audiology, M.V.Shetty College of Speech & Hearing, Maladi Court, Mangalore-575015.
3. The Principal, Dr. M.V. Shetty College of Speech & Hearing Maladi Court, Mangalore-575015.
4. The Deputy Registrar, O/o the Registrar, Mangalore University.
5. The Asst. Registrar (ACC), O/o the Registrar, Mangalore University.
6. The Director, Computer Centre, Mangalore University – with a request to publish in the website.
7. Guard File.

MANGALORE UNIVERSITY
Department of Speech and Hearing
Ph.D. Course Work in Speech and Hearing

Courses	Particulars	Hours of Instructions per week	Duration of Examination (Hrs)	Marks			Credits
				IA	Theory	Total	
SLP 101	Research Methodology	4	3	30	70	100	4
SLP 102	Research and Publication Ethics	2	3	30	70	100	2
SLP 103	Review of Literature Review Report Viva	14	-	-	-	150 50	6 2
		Total				400	14

- Internal Assessment (30 marks) will be based on assignment/seminar.
- Review report should contain state of the art research work analysis related implementation issues and motivation for the stated research work.

Programme Outcomes (PO)

- PO1- Research Know-how: Develop the knowledge and wherewithal to independently carry out research on diverse basic or applied aspects of **Speech and Hearing**.
- PO2- Biosafety measures: Develop practices in biosafety measures used in laboratories at different levels.
- PO3- Research Investigation: Apply standard methods including testing hypothesis, field lab techniques, data collection, design of experiments, framing questionnaire, analysis and interpretation of results in order to draw valid conclusions.
- PO4- Operation of Instruments: Handle and trouble shoot various advanced instruments for analyses of biological samples.
- PO5- Problem Analysis: Apply suitable statistical and mathematical methods to analyze the lab and/or field-based data for interpretation of the results.
- PO6- State-of-the-art Skills: Learn advanced techniques and their applications including bioinformatics, statistical packages databases and report sensing techniques.
- PO7- Research Ethics: Identify the ethical issues associated with experimentation using animal models and human samples, with the aid of national and international guidelines.

Programme Specific Outcomes (PSO)

- PSO1- Gain the knowledge and expertise to carry out studies by understanding the basic principles and methodologies of **research in science**.
- PSO2- Capable of creating a research problem and designing a research study paying the way to come out with new concepts either in basic or applied field of speech and hearing.
- PSO3- Become familiar with how to write a good synopsis, research proposal and project report, helpful to bring out an excellent thesis, publication of research articles in high impact journals and attracting the grant from financial agencies.
- PSO4 - Gain the knowledge of various laboratory experiments and instruments from basic to

advanced that will be useful to carry out scholarly scientific research in **speech and hearing**.

PSO5- Build the confidence of solving the biological problems by applying statistics/using statistical Packages, databases and remote sensing for a good analysis and interpretation of data to draw valid conclusions.

SLP 101 – RESEARCH METHODOLOGY

60 hrs. (15 hrs./unit)

Course Outcomes:

Upon successful completion of the course students will:

- CO1- Get acquainted with a good knowledge of research methodologies including how to select a Problem based on types and significance of scientific research, testing hypothesis.
- CO2- Be able to build the knowledge of field and lab techniques, setting experimental designs, sample collection, analyzing and interpretation of the data.
- CO3- Gain the knowledge on how to write the review of literature, citations, research article.
- CO4- Develop good laboratory practices, including how to get the ethical clearance for animal experimentation, to handle animals and how to design questionnaires.
- CO5- Know about different model organisms available for research in **speech and hearing** and to select an ideal model based on research problem.
- CO6- Be able to evaluate data using statistical methods, tools how to represent the data graphically and uses of statistical packages.
- CO7- Understand the basics of Speech and Hearing and know how to retrieve the database and make use of search engines, internet tools and World Wide Web (WWW)

UNIT 1

- Methods of research in behavioral sciences – research designs – measuring: purpose, principles, needs and applications. Between group designs and single subject research designs.
- Basic of research –scientific approach – problems – hypothesis – constructs – variables.
- Types of research- empirical rationale-experimental and expost-facto research laboratory experiments, field studies – survey research - fundamental research. Epidemiology - clinical and applied research.

UNIT 2

- Theory of probability – principles and properties of normal distribution – binominal distribution – interpretation of data using the normal probability curve – causes of distribution – deviations from the normal forms.
- Correlation – meaning – coefficient of correlation – linear correlation – product moment correlation – rank correlation, biserial correlation, tetrachoric correlation partial and multiple correlations – regression equation.
- Variance – concept – foundations – assumptions – one way classification. ANOVA MANOVA, ANCOVA, MANCOVA.

UNIT 3

- Technique of sampling – sampling and randomness-principles of randomization – random

assignment – methods – random sampling-stratified sampling, incidental sampling – purposive
Samples of one to tone matched sampling – size of sample

- Measurement – foundations – types – reliability – validity.
- Variance – implication to research – variance control.
- Techniques of equation – experimental and control groups – matching and randomization –advantages, disadvantages and limitations.
- Research designs – various types of group designs – various types of single subject research designs.
- Analysis and interpretation – principles, indices – cross breaks – factor analysis – multivariate statistics – time series analysis.
- The research report – cardinal characteristics – purpose – structure presentation and writing style.

UNIT 4

- Evaluating research in communication disorders
- Critical evaluation methods, Critics and issues

UNIT 5

- Recording, Transcription and analysis of conversation in one normal and one child with mental retardation.
- Theoretical explanation of the process.

References

- 1) Clinical Research in Communicative Disorders. (2nd Edition). Principles and Strategies.M.N. Hegde.
- 2) Introduction to clinical Research in Communication Disorders. Mary and Grace.
- 3) Pannabacker, M.H. and Middleton, G.F. (1994) . Introduction to clinical Research in Communication disorders. San Diego: Singular Publishing ISBN 1-56593 - 219-6.
- 4) Maxwell, D.L. and Stake, E.(1997). Research and Statistical Methods in Communication Disorders .Baltimore: Williams and Wilkins, ISBN 0-683-0-655-7.
- 5) Stein, F and Cutler, S.K.(1996). Clinical Research in Allied health and Special Education. San Diego : Singular Publishing Group Inc.ISBN 1-56593-631-0

Additional:

- 1) Fortney , L.G. and Wilkins , M.P.(1993). Foundations of Clinical Research.Connecticut : Appleton and lange.ISBN 0-8385 -1065-5.
- 2) Woods, A., Fletcher , P. and Hughes, A. (1986). Statistics in Language studies. Cambridge :University Press.ISBN 0-521-253268.

SLP 102 – RESEARCH AND PUBLICATION ETHICS (RPE)

Course Outcomes:

Students will be able to:

- CO1- Be aware about the publication ethics and publication misconducts
- CO2- Understand the philosophy of science and ethics and research integrity
- CO3- Develop hands-on skills to identify research misconduct and predatory publications
- CO4- Differentiate indexing and citation databases, open access publication and research metrics
- CO5- Use plagiarism tools

Theory

Philosophy and Ethics (3 hrs.)

- a) Introduction to philosophy: definition, nature and scope, concept, branches
- b) Ethics: definition, moral philosophy, nature of moral judgement and reactions

Scientific Conduct (5 hrs.)

- a) Ethics with respect to science and research
- b) Intellectual honesty and research integrity
- c) Scientific misconducts: falsification, fabrication and plagiarism (FFP)
- d) Redundant publications: duplicate and overlapping publications, salami slicing
- e) Selective reporting and misrepresentation of data

Publication Ethics (7 hrs.)

- a) Publication ethics: definition, introduction and importance
- b) Best Practices/standards setting initiatives and guidelines: COPE, WAME. etc.
- c) Conflicts of interest
- d) Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
- e) Violation of publication ethics, authorship and contributor ship
- f) Identification of publication misconduct, complaints and appeals
- g) Predatory publishers and journals

Practice

Open access publishing (4hrs.)

- a) Open access publications and initiatives
- b) SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
- c) Software tool to identify predatory publications developed by SPPU
- d) Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal, Suggester, etc.

Publication misconduct (4 hrs.)

A. Group discussions (2 hrs.)

- a) Subject specific ethical issues, FFP, authorship
- b) Conflicts of interest
- c) Complaints and appeals: examples and fraud from India and abroad

B. Software tools (2 hrs.)

Use of plagiarism software like Turnitin, Uukund and other Open Source software tools

Databases and research metrics (7 hrs.)

A. Databases (4 hrs.)

- a) Indexing databases
- b) Citation databases: Web of science, Scopus, etc.

B. Research metrics (3 hrs.)

- a) Impact factor of journal as per journal citation report, SNIP, SJR, IPP, Cite score
- b) Metrics: h-index, g index, i10 index, altmetrics

References:

1. Bird. A. (2006), *Philosophy of Science*, Routledge
2. MacIntyre, A (1967) *A Short History of Ethics*, London.
3. Chaddah, P (2018) *Ethics in Competitive Research: Do not get scooped; do not get plagiarized*, ISBN-978-9387480865
4. National Academy of Sciences. National Academy of Engineering and Institute of Medicine. (2009). *On being a Scientist: A guide to Responsible Conduct in Research: Third Edition*, National Academics Press.
5. Rensik, D. B. (2011), What is ethics in research & why is it important. *National Institute of Environmental Health Sciences*, 1-10 Retrieved from <https://www.niehs.nih.gov/resources/bioethics/whatis/index.cfm>
6. Beall, J. (2012), Predatory publishers are corrupting open access. *Nature*, 489 (7415), 179-179.. <https://doi.org/10.1038/489179a>
7. Indian National Science Academy (INSA), *Ethics in Science Education, Research and Governance* (2019), ISBN:978-81-939482-1-7. https://www.insaindia.res.in/pdf/Ethics_Book.pdf

SLP 103 – REVIEW OF LITERATURE

Course Outcomes (CO)

Upon successful completion of the course, students will be able to:

- CO1- Understand what literature review is and how to write it with a scientific approach, focusing on the specialization/research problem.
- CO2- Gain the knowledge how to write scholarly research article, including the current knowledge with recent findings, theoretical and methodological contributions to a particular topic, based on the secondary sources.
- CO3-. Acquainted with a thorough knowledge and confidence to initiate the research on the topics/problem of thrust areas.

Ph.D. Course Work in Speech and Hearing

Model Question Paper

Time: 3 Hrs.

Max. Marks: 70

1. Write short notes on any **Four** of the following (not exceeding 2 pages each): (4x4=16)

a.

b.

c.

d.

e.

f.

Write brief answers on any **Four** of the following (not exceeding 4 pages each): (4x7=28)

2.

3.

4.

5.

6.

7.

Answers any **Two** of the following (not exceeding 8 pages each):

(2x13=26)

8.

9.

10.