

# **CENTRAL UNIVERSITY OF PUNJAB**



**Ph.D. Education**

**Batch 2026-27**

**Department of Education**

## GRADUATE ATTRIBUTES

The graduates will reflect research from multiple perspectives with creative and innovative thinking and apply it to practical and theoretical challenges they will face in life.

### Programme Learning Outcomes

The programme focuses on;

- developing research skills on different advanced aspects of research methodology and application of digital technologies in the field of research and teaching
- analyzing the community related problems and conducting research for their solutions
- developing scientific attitude and global outlook

### Course Structure of the Programme

| Course Code | Course Title                                                 | Course Type        | Credit Distribution |          |          |           |
|-------------|--------------------------------------------------------------|--------------------|---------------------|----------|----------|-----------|
|             |                                                              |                    | L                   | T        | P        | Total     |
| EDU.712     | Research Methodology                                         | Core Course        | 4                   | 0        | 0        | 4         |
| EDU 713     | Statistics and Computer Applications in Educational Research | Core Course        | 4                   | 0        | 0        | 4         |
| UNI.753     | Curriculum, Pedagogy and Evaluation                          | Core Course        | 1                   | 0        | 0        | 1         |
| EDU.751     | Research and Publication Ethics                              | Core Course        | 2                   | 0        | 0        | 2         |
| EDU.706     | Research Competency                                          | Skill Based        | 0                   | 0        | 4        | 2         |
| EDU.752     | Teaching Assistantship                                       | Skill Based        | 0                   | 0        | 2        | 1         |
| EDU.711     | International Mentoring                                      | Value added course | 0                   | 2        | 0        | 2         |
|             | <b>Total</b>                                                 |                    | <b>11</b>           | <b>2</b> | <b>6</b> | <b>16</b> |

|   |   |   |         |
|---|---|---|---------|
| L | T | P | Credits |
| 4 | 0 | 0 | 4       |

**Course Title: Research Methodology**

**Course Code: EDU.712**

**Course Learning Outcomes Total**

**Hours: 60**

After completion of the course the students will be able to;

**CLO1:** explore the different approaches to research

**CLO2:** develop skills in sampling process and construct tools

**CLO3:** develop competency in analyzing quantitative data

**CLO4:** develop skills in conduct of different types of qualitative research and its analysis procedure

| <b>Units/<br/>Hours</b>             | <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Mapping<br/>with CLOs</b> |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <b>Unit I<br/>16<br/>Hours</b>      | <ul style="list-style-type: none"> <li>• Research Approaches: positivist and non-positivist • Process of conducting research: Identifying a Research Problem, Reviewing the Literature, Specifying a Purpose statement, objectives, hypothesis and research questions for Research, Collecting Data, Analyzing and Interpreting the Data, and Reporting and Evaluating Research</li> <li>• Types of Research: Historical, Descriptive, Experimental and Mixed Method</li> </ul> <p><b>Learning Activities:</b> Group discussion on steps of conducting research and seminars on various types of research</p> | <b>CLO1</b>                  |
| <b>UNIT<br/>II<br/>12<br/>Hours</b> | <ul style="list-style-type: none"> <li>• Sampling design: Selecting appropriate probability and non probability sampling techniques for qualitative and quantitative research problems</li> <li>• Quantitative and qualitative research tools: types and process of development (questionnaire, rating scales, attitude scales, inventories, interview and observation schedules, focus group discussion and field notes)</li> </ul> <p><b>Learning Activities:</b> Individual scholar will develop sample tools of each types</p>                                                                            | <b>CLO2</b>                  |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>UNIT III</b><br><b>16 Hours</b> | <ul style="list-style-type: none"> <li>• Process of standardization of tools: Planning, preparation, try out and evaluation</li> <li>• Process of Analyzing and Interpreting Quantitative data: scoring the Data, determining the category of data, selecting appropriate statistical technique, data feeding, cleaning and account for Missing Data</li> </ul>                                                                                                                                                                           | <b>CLO3</b> |
|                                    | <b>Learning Activities:</b> The scholars will be developing one Tool/ Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |
| <b>UNIT IV</b><br><b>16 Hours</b>  | <ul style="list-style-type: none"> <li>• Qualitative research methods: case study research, ethnographic research, phenomenology, and grounded theory.</li> <li>• Qualitative data analysis: data reduction, data display and reaching conclusions. content analysis, thematic analysis</li> <li>• Process of validating the qualitative research findings: triangulation, member checking, and auditing.</li> </ul> <b>Learning Activities:</b> Presentation and discussion of different qualitative research techniques through seminar | <b>CLO4</b> |

### Suggested Readings

- Adams, K. A., & Lawrence, E. K. (2015). *Research methods, statistics and applications*. Sage Publications.
- Agarwal, Y. P. (2004). *Statistical Methods: Concepts, Application and Computation*. New Delhi: Sterling Publishers.
- Aiken, L.R., & Marnat, G. G. (2009). *Psychological testing and assessment*. Noida (U.P.): Pearson.
- Anastasi, A., & Urbina, S. (2014). *Psychological testing*. New Delhi: PHI Learning Private Limited.
- Best J.W. (1999). *Research in Education*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Best, J.W., & Kahn, J. W. (2006). *Research in education*. New Delhi: PHI Learning Private Ltd.
- Bogdon, R., & Biklen, S. K. (2008). *Qualitative Research for Education: An Introduction to Theories and Practice*. New Delhi: PHI learning
- Borg, W.R., & Gall, M.D. (1983). *Educational Research – An Introduction*. New York: Longman, Inc.
- Check, J., & Jurs, S. G. (2009). *Research methods in education*. Pearson Publications.
- Creswell, J. W. (2015). *Educational Research: Planning, Conducting and Evaluating Quantitative and qualitative Research*. Boston: Pearson Publications.
- Curtis, W., Murphy, M., & Shields, S. (2013). *Research and Education*. New York & London: Routledge

- EfratEfron, S., &Ravid, R. (2013). *Action Research in Education: A Practical Guide*, New York: Routledge
- Egbert, J., &Sanden, S. (2013). *Foundations of Education Research: Understanding Theoretical Components*. New York: Routledge. • Fraenkel, J.R., &Wallen, N.E. (1996). *How to Design and Evaluate Research in Education*. New York: McGraw Hill.
- Gall, M. D., Gall, J. P., & Berg, W. R. (2007). *Educational research an introduction*. Pearson Publications.
- Gordon, P. (1996). *A Guide to Educational Research*. New York: Routledge
- Gregory, R. J. (2014). *Psychological testing: History, principles and applications*. New Delhi: Pearson.
- Gupta, S. (2010). *Research methodology and statistical techniques*. New Delhi: Deep & Deep Publications Pvt. Ltd.
- Killpatrick, D.L. (2005). *Evaluating training Programmes: The four Levels*. San Francisco: Brrett-Kochler.
- Koul, L. (1984). *Methodology of Educational Research*. New Delhi: Vikas Publications.
- Koul, L. (2009). *Methodology of educational research*. Noida: Vikas Publishing House Pvt. Ltd.
- Kress, T. (2013). *Using Critical Research for Educational and Social Change*. New York & London: Routledge.
- Lauren, B., Little, T. D., & Card, N. A. (2012). *Developmental Research Methods*. New York: The Guilford Press.
- Martella, R. C., Nelson, J. R., Morgan, R. L., &Martella, N. E. (2013). *Understanding and Interpreting Educational Research*, New York: Routledge Guilford Press
- Maykut, P., & Morehouse, R. (1994). *Beginning Qualitative Research- A Philosophic and Practical Guide*. London: The Falmer Press. • Miller, S. A. (2007). *Developmental Research Methods*. New Delhi: Sage Publications.
- Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. C.A: Sage Publications.
- Reynolds, C. R., Livingston, R. B., &Willson, V. (2009). *Measurement and assessment in education*. New Delhi: PHI Learning Private Limited.

**Course Title: Statistics and Computer Applications in Educational Research****Course Code: EDU.713**

| L | T | P | Credits |
|---|---|---|---------|
| 4 | 0 | 0 | 4       |

**Course Learning Outcomes Total Hours: 60** After completion of the course the students will be able to;

**CLO1:** Differentiate between the descriptive and inferential statistics

**CLO2:** Construct and standardize tools for qualitative or quantitative analysis **CLO3:** Develop competence involving selection of appropriate data analysis techniques. **CLO4:** Integrate ICT into Teaching Learning, administration and Evaluation. **CLO5:** Develop proficiency in the use of statistical packages for analysis of data

| Units/Hours                 | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mapping with CLOs |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>Unit I<br/>16 Hours</b>  | <ul style="list-style-type: none"><li>• Meaning and importance of statistics</li><li>• Descriptive and inferential statistics</li><li>• Nature and Types of data, Scales of Measurement</li><li>• Measures of central tendency: meaning and uses</li><li>• Measures of Dispersion: range, quartile deviation, standard deviation, percentile, skewness and kurtosis, correlation and its types.</li></ul> <p><b>Learning Activities:</b> Individual scholars will learn the formulas and do the computation part in manual mode.</p>                                                                                                                                                                                                                                   | <b>CLO1</b>       |
| <b>UNIT II<br/>16 Hours</b> | <ul style="list-style-type: none"><li>• Testing of Hypothesis: Null hypothesis, one tailed and two tailed test, level of significance, degree of freedom, standard error, confidence interval, type-I error and type-II error.</li><li>• Testing of Normality of distribution: K-S one sample test, Normal Probability Curve (NPC) and its applications in research.</li><li>• Construction of a tool: understanding the construct and operationalization, preparing the item content, selection of item format, difficulty level, discriminating index, item analysis, and determination of its Reliability &amp; validity</li></ul> <p><b>Learning Activities:</b> Individual scholars will be developing a data collection tool under the concerned supervisor.</p> | <b>CLO2</b>       |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>UNIT III</b><br><b>16 Hours</b> | <p><b>Parametric statistics:</b></p> <ul style="list-style-type: none"> <li>t-test, ANOVA, ANCOVA; meaning, assumptions and applications. Linear Regression.</li> </ul> <p><b>Non-parametric statistics:</b></p> <ul style="list-style-type: none"> <li>Use of Chi-square as a Test of ‘Goodness of Fit, Mann Whitney U test</li> </ul> <p><b>Qualitative Data Analysis:</b></p> <ul style="list-style-type: none"> <li>Data analysis in qualitative research: content analysis, inductive, phenomenological- analytical</li> </ul> <p><b>Learning Activities:</b> The scholars will be doing systematic literature review of studies related to their topic</p>                                | <b>CLO3</b>                    |
| <b>UNIT IV</b><br><b>12 Hours</b>  | <p><b>Computer Applications in Research</b></p> <ul style="list-style-type: none"> <li>Using tools of ICT in classroom-Google Forms, Padlet, Prezi and Google classroom.</li> <li>Creating a Blog and an e-portfolio.</li> <li>Introduction to competing software packages for data analysis- Excel and SPSS. <ul style="list-style-type: none"> <li>Concept of Cybergogy and Cyberbullying</li> </ul> </li> <li>Use of Artificial Intelligence tools in Review of Related Literature, Data Analysis and Interpretation</li> </ul> <p><b>Learning Activities:</b> The scholars will be doing secondary/ primary data analysis of Quantitative methods of research and present individually.</p> | <b>CLO4</b><br><br><b>CLO5</b> |

### Suggested Readings

- Adams, K. A., & Lawrence, E. K. (2015). *Research methods, statistics and applications*. Sage Publications.
- Agarwal, Y. P. (2004). *Statistical Methods: Concepts, Application and Computation*. New Delhi: Sterling Publishers.
- Aiken, L.R., & Marnat, G. G. (2009). *Psychological testing and assessment*. Noida (U.P.): Pearson.
- Anastasi, A., & Urbina, S. (2014). *Psychological testing*. New Delhi: PHI Learning Private Limited.
- Best J.W. (1999). *Research in Education*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Best, J.W., & Kahn, J. W. (2006). *Research in education*. New Delhi: PHI Learning Private Ltd.

- Bogdon, R., & Biklen, S. K. (2008). *Qualitative Research for Education: An Introduction to Theories and Practice*. New Delhi: PHI learning
- Borg, W.R., & Gall, M.D. (1983). *Educational Research – An Introduction*. New York: Longman, Inc.
- Check, J., & Jurs, S. G. (2009). *Research methods in education*. Pearson Publications.
- Creswell, J. W. (2015). *Educational Research: Planning, Conducting and Evaluating Quantitative and qualitative Research*. Boston: Pearson Publications.
- Curtis, W., Murphy, M., & Shields, S. (2013). *Research and Education*. New York & London: Routledge
- Efrat Efron, S., & Ravid, R. (2013). *Action Research in Education: A Practical Guide*, New York: Routledge
- Egbert, J., & Sanden, S. (2013). *Foundations of Education Research: Understanding Theoretical Components*. New York: Routledge.
- Fraenkel, J.R., & Wallen, N.E. (1996). *How to Design and Evaluate Research in Education*. New York: McGraw Hill.
- Gall, M. D., Gall, J. P., & Berg, W. R. (2007). *Educational research an introduction*. Pearson Publications.
- Gordon, P. (1996). *A Guide to Educational Research*. New York: Routledge • Gregory, R. J. (2014). *Psychological testing: History, principles and applications*. New Delhi: Pearson.
- Gupta, S. (2010). *Research methodology and statistical techniques*. New Delhi: Deep & Deep Publications Pvt. Ltd.
- Kilpatrick, D.L. (2005). *Evaluating training Programmes: The four Levels*. San Francisco: Brrett-Kochler.
- Koul, L. (1984). *Methodology of Educational Research*. New Delhi: Vikas Publications.
- Koul, L. (2009). *Methodology of educational research*. Noida: Vikas Publishing House Pvt. Ltd.
- Kress, T. (2013). *Using Critical Research for Educational and Social Change*. New York & London: Routledge.
- Lauren, B., Little, T. D., & Card, N. A. (2012). *Developmental Research Methods*. New York: The Guilford Press.
- Martella, R. C., Nelson, J. R., Morgan, R. L., & Martella, N. E. (2013). *Understanding and Interpreting Educational Research*, New York: Routledge Guilford Press • Maykut, P., & Morehouse, R. (1994). *Beginning Qualitative Research- A Philosophic and Practical Guide*. London: The Falmer Press.
- Miller, S. A. (2007). *Developmental Research Methods*. New Delhi: Sage Publications. • Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. C.A: Sage Publications.
- Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). *Measurement and assessment in education*. New Delhi: PHI Learning Private Limited.



**Course Title: Curriculum, Pedagogy and Evaluation****Course Code: UNI.753**

| L | T | P | Credit |
|---|---|---|--------|
| 1 | 0 | 0 | 1      |

**Course Learning Outcomes (CLO) Total Hours: 15** After completion of the course, scholars shall be able to;

**CLO1:** Analyse the principles and bases of curriculum design and development **CLO2:** Examine the processes involved in curriculum development **CLO3:** Develop the skills of adopting innovative pedagogies and conducting students' assessment

**CLO4:** Develop Curriculum of a specific course/programme

| Units/Hours                 | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mapping with CLOs              |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Unit I<br/>4 Hours</b>   | <ul style="list-style-type: none"><li>Curriculum: Concept and Principles of Curriculum Development, Foundations of Curriculum Development.</li><li>Types of Curriculum Designs- Subject- centered, learner-centered, experience- centered, activity centered and core curriculum.</li><li>Designing local, national, regional, and global specific curriculum.</li><li>National Credit Framework and Higher Education</li></ul> <b>Learning Activities:</b> Group Discussion | <b>CLO1</b><br><br><b>CLO4</b> |
| <b>Unit II<br/>4 Hours</b>  | <ul style="list-style-type: none"><li>Process of Curriculum Development: Formulation of graduate attributes, course/learning outcomes, content selection, organization of content and learning experiences, and transaction process.</li><li>Comparison among Interdisciplinary, multidisciplinary, and trans-disciplinary approaches to curriculum.</li></ul> <b>Learning Activities:</b> Preparation and submission of report on the discussed concepts                    | <b>CLO2</b><br><br><b>CLO4</b> |
| <b>Unit III<br/>3 Hours</b> | <ul style="list-style-type: none"><li>Conceptual understanding of Pedagogy.</li><li>Traditional Indian Pedagogies: Sravan, manana, Nidhidhyasana, Prashnottar Vidhi, Tark Vidhi, Vyakhya Vidhi, Adhyaropa Apavad Vidhi, Drishtant Vidhi, Katha – Kathan, and Upadesh Vidhi</li></ul>                                                                                                                                                                                         | <b>CLO3</b><br><br><b>CLO4</b> |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
|                            | <ul style="list-style-type: none"> <li>• Innovative Pedagogies: Peeragogy, Cybergogy and Heutagogy with special emphasis on Blended learning, Flipped learning, Dialogue, cooperative and collaborative learning</li> </ul> <p><b>Learning Activities:</b> Preparation and submission of report on the discussed concepts</p>                                                                                                                                                           |                                       |
| <b>Unit IV<br/>4 Hours</b> | <ul style="list-style-type: none"> <li>• Assessment: Concept, purpose, and principles of preparing objective and subjective questions.</li> <li>• Conducting Assessment: Modes of conducting assessment – offline and online; use of ICT in conducting assessments.</li> <li>• Evaluation: Formative and Summative assessments, Outcome-based assessment, and scoring criteria.</li> </ul> <p><b>Learning Activities:</b> Discussion and dialogue on modes of conducting assessment</p> | <p><b>CLO3</b></p> <p><b>CLO4</b></p> |

### Transaction Mode

Lecture, dialogue, peer group discussion, seminar

### Evaluation criteria

There shall be an end-term evaluation of the course for 50 marks for a duration of 2 hours covering all the course learning outcomes (CLOs). The course coordinator shall conduct the evaluation.

### Suggested Readings

- Allyn, B., Beane, J. A., Conrad, E. P., & Samuel J. A., (1986). *Curriculum Planning and Development*. Boston: Allyn & Bacon.
- Brady, L. (1995). *Curriculum Development*. Prentice Hall: Delhi. National Council of Educational Research and Training.
- Deng, Z. (2007). Knowing the subject matter of science curriculum, *Journal of Curriculum Studies*, 39(5), 503-535. <https://doi.org/10.1080/00220270701305362>
- Gronlund, N. E. & Linn, R. L. (2003). *Measurement and Assessment in teaching*. Singapore: Pearson Education
- McNeil, J. D. (1990). *Curriculum: A Comprehensive Introduction*, London: Scott, Foreman/Little
- Nehru, R. S. S. (2015). *Principles of Curriculum*. New Delhi: APH Publishing Corporation.
- Oliva, P. F. (2001). *Developing the curriculum* (Fifth Ed.). New York, NY: Longman
- Stein, J. and Graham, C. (2014). *Essentials for Blended Learning: A Standards-Based Guide*. New York, NY: Routledge.

**Web Resources**

- [https://www.westernsydney.edu.au/data/assets/pdf\\_file/0004/46709/5/Fundamentals\\_of\\_Blended\\_Learning.pdf](https://www.westernsydney.edu.au/data/assets/pdf_file/0004/46709/5/Fundamentals_of_Blended_Learning.pdf)
- [https://www.uhd.edu/academics/university-college/centers/offices/teaching-learning-excellence/Pages/Principles-of-a-Flipped Classroom.aspx](https://www.uhd.edu/academics/university-college/centers/offices/teaching-learning-excellence/Pages/Principles-of-a-Flipped-Classroom.aspx)
- [http://leerwegdialoog.nl/wp-content/uploads/2018/06/180621-Article- The Basic-Principles-of-Dialogue-by-Renate-van-der-Veen-and-Olga Plokhooij.pdf](http://leerwegdialoog.nl/wp-content/uploads/2018/06/180621-Article-The-Basic-Principles-of-Dialogue-by-Renate-van-der-Veen-and-Olga-Plokhooij.pdf)

**Course Title: RESEARCH AND PUBLICATION ETHICS****Course Code: EDU.751**

| L | T | P | Credit |
|---|---|---|--------|
| 2 | 0 | 0 | 2      |

**Course Learning Outcomes (CLOs) Total Hours: 30**

After completion of the course the students will be able to;

**CLO1:** Demonstrate Intellectual honesty and research integrity

**CLO2:** Judge Publication ethics, authorship and contributor-ship

**CLO3:** Identify thrust areas of global research and Open access publications and initiatives

**CLO4:** Analyze Research Metrics

| Unit/ Hours                 | Course content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CLOs        |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Unit I<br/>3 Hours</b>   | <b>Philosophy and Ethics</b> <ul style="list-style-type: none"><li>• Introduction to Philosophy: definition, nature and scope, content, branches</li><li>• Ethics: definition, moral philosophy, nature of moral judgements and reactions</li></ul>                                                                                                                                                                                                                                                                                                                                                                             | <b>CLO1</b> |
| <b>Unit II<br/>5 Hours</b>  | <b>Scientific Conduct</b> <ul style="list-style-type: none"><li>• Ethics with respect to science and research</li><li>• Intellectual honesty and research integrity</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>CLO2</b> |
|                             | <ul style="list-style-type: none"><li>• Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)</li><li>• Redundant publications: duplicate and overlapping publications</li><li>• Selective reporting and misrepresentation of data</li></ul>                                                                                                                                                                                                                                                                                                                                                                 |             |
| <b>Unit III<br/>7 Hours</b> | <b>Publication Ethics</b> <ul style="list-style-type: none"><li>• Publication ethics: definition, introduction, and importance</li><li>• Best practices/ standards setting initiatives and guidelines: Committee on Publication Ethics (COPE). Salami Slicing</li><li>• Conflicts of interest</li><li>• Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice versa, types</li><li>• Violation of publication ethics, authorship and contributorship</li><li>• Identification of publication misconduct, complaints and appeals</li><li>• Predatory publishers and journals</li></ul> | <b>CLO2</b> |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                             |             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Unit IV<br/>4 Hours</b> | <b>Open Access Publishing</b> <ul style="list-style-type: none"> <li>• Open access publications and initiatives • SHERPA/ROMEO online resource to check publisher copyright &amp; self archiving policies</li> <li>• Software tool to identify predatory publications developed by SPPU</li> <li>• Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal.</li> </ul> | <b>CLO3</b> |
| <b>Unit V<br/>4 Hours</b>  | <b>Publication Misconduct</b> <ul style="list-style-type: none"> <li>• Group Discussions: Subject specific ethical issues, FFP, authorship; conflicts of interest; complaints and appeals: examples and fraud from India and abroad</li> <li>• Software tools: Use of plagiarism software like Turnitin, Urkund and other open source software tools</li> </ul>                                             | <b>CLO1</b> |
| <b>Unit VI<br/>7 Hours</b> | <b>Databases and Research Metrics</b>                                                                                                                                                                                                                                                                                                                                                                       | <b>CLO4</b> |
|                            | <ul style="list-style-type: none"> <li>• Databases: Indexing databases; Citation database: Web of Science, Scopus etc. • Research Metrics: Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score; Metrics : h-index, i10 index</li> </ul>                                                                                                                                     |             |

### Suggested Readings

- Best J.W. (1999). *Research in Education*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Bogdon, R., & Biklen, S. K. (2008). *Qualitative Research for Education: An Introduction to Theories and Practice*. New Delhi: PHI learning
- Borg, W.R., & Gall, M.D. (1983). *Educational Research – An Introduction*. New York: Longman, Inc.
- Chandra, S. S., & Sharma, R.K. (2010). *Research in education*. New Delhi: Atlantic Publishers and Distributors (P) Ltd.

- Creswell, J. W. (2015). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research*. Boston: Pearson Publications.
- Curtis, W., Murphy, M., N Shields, S. (2013). *Research and Education*. New York & London: Routledge
- Gordon, P. (1996). *A Guide to Educational Research*. New York: Routledge
- Kaul, L. (1984). *Methodology of Educational Research*. New Delhi: Vikas Publications.
- Kilpatrick, D.L. (2005). *Evaluating training Programmes: The four Levels*. San Francisco: Brrett-Kochler.
- Kress, T. (2013). *Using Critical Research for Educational and Social Change*. New York & London: Routledge.
- Lauren, B., Little, T. D., & Card, N. A. (2012). *Developmental Research Methods*. New York: The Guilford Press.
- Martella, R. C., Nelson, J. R., Morgan, R. L., & Martella, N. E. (2013). *Understanding*
- Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. C.A: Sage Publications.
- Tolmie, A., McAteer, E., & Muijs, D. (2012). *Quantitative Methods in Educational and Social Research Using SPSS*. Maidenhead: Open University Press
- Wellington, J. (2015). *Educational Research*. New Delhi: Bloomsbury Academic.
- Weir, W., & Stephen G. (2009). *Research methods in Education*. New York: Pearson Education

| L | T | R | Credit |
|---|---|---|--------|
| 0 | 0 | 4 | 2      |

**Course Title: Research Competencies**

**Course Code: EDU.706**

**Course Learning Outcomes (CLOs)**

**Total Hours: 45**

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

- CLO1:** Demonstrate the ability to conduct a comprehensive literature review using scholarly databases and synthesize relevant research findings.
- CLO2:** Apply statistical methods to perform meta-analysis and interpret results for scholarly writing.
- CLO3:** Construct reliable and valid research tools/instruments for data collection aligned with research objectives.
- CLO4:** Accurately cite and reference scholarly works using standardized referencing styles (e.g., APA, MLA, Chicago).
- CLO5:** Develop a structured field research report with clearly defined problem statements, objectives, methodology, and ethical considerations

## **Contents**

- Literature Review
- Meta-Analysis and writing of research articles
- Tool Construction
- Writing of References
- Writing a field research report

The students in this paper will have to conduct activities as mentioned above and submit their compiled report to the course coordinator. It will be evaluated by a three member examiners committee including the course coordinator constituted by the head of the department.

**Course Title: TEACHING ASSISTANTSHIP**

| L | T | P | Credit |
|---|---|---|--------|
| 0 | 0 | 2 | 1      |

**Course Code: EDU.752 Total Hours: 30 Course Learning Outcome**

At the end of this skill development course, the scholars shall be able to;

**CLO 1:** familiarize themselves with the pedagogical practices of effective classroom delivery and knowledge evaluation system

**CLO 2:** manage large and small classes using appropriate pedagogical techniques for different types of content

**Activities:**

- The scholars shall attend Master degree classes of his/her supervisor to observe the various transaction modes that the supervisor follows in the classroom delivery or transaction process one period per week.
- The scholars shall be assigned one period per week under the direct supervision of his/her supervisor to teach the Master degree students adopting appropriate teaching strategy(s).
- The scholars shall be involved in the examination and evaluation system of the Master degree students such as preparation of questions, conduct of examination and preparation of results under the direction of the supervisor.

**Evaluation:**

- At the end of the semester, the supervisor shall conduct an examination of teaching skills learned by the scholar as per the following **evaluation criteria**:
  - The scholars shall be given a topic relevant to the Master degree course of the current semester as his/her specialization to prepare lessons and deliver in the classroom before the master degree students for one hour (45 minutes teaching + 15 minutes' interaction).
  - The scholars shall be evaluated for a total of 50 marks comprising *content knowledge* (10 marks), *explanation and demonstration skills*(10 marks), *communication skills* (10 marks), *teaching techniques employed* (10 marks), and classroom interactions (10).

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**Course Title: INTERNATIONAL MENTORING**

| <b>L</b> | <b>T</b> | <b>P</b> | <b>Credits</b> |
|----------|----------|----------|----------------|
| <b>0</b> | <b>2</b> | <b>0</b> | <b>2</b>       |

**Course Code: EDU.711 Total 30 hours**

The course aims at providing international exposure on various areas, methods, and recent trends in educational research

**Course Learning Outcomes**

After completion of the course, the students will be able to

**CLO1:** Establish a link with the international learning community to develop global vision

**CLO2:** Identify thrust areas of global research

**CLO3:** Analyze and suggest solutions of global issues

| <b>Units/Hours</b> | <b>Contents</b>                                                                                                                                                 | <b>Mapping with CLOs</b> |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 7 hours            | <ul style="list-style-type: none"><li>• Virtual session/face-to-face with international experts/ students on various research areas</li></ul>                   | CLO 1, CLO 2, CLO 3      |
| 8 hours            | <ul style="list-style-type: none"><li>• To explore thrust areas of global research and suggest innovative solutions to various global-level problems.</li></ul> | CLO 1, CLO 2, CLO 3      |

**Evaluation criteria**

E-assessment (Report writing) - 50 marks