

**DSE (II.4.3) Research Investigations in Mathematics Education  
Discipline Specific Elective**

**1. Credit Distribution of the Course**

Course title & Code  DSE (II.4.3)	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Research Investigations in Mathematics Education	4	3	1	0	Undergraduate	-

**2. Learning Objectives**

The paper highlights the significant features of mathematics education as a dynamic research field. It lays emphasis on developing critical understanding on issues and investigations in mathematics curriculum, pedagogy and assessment.

**3. Learning Outcomes**

- Understand the nature of mathematics education research;
- Identify the key emerging trends in mathematics education;
- Examine contemporary issues and challenges in mathematics education;
- Explore interdisciplinary perspectives in mathematics education research;
- Critically review and analyse seminal research contributions in mathematics education.

**4. Syllabus**

**Unit I Trends and Issues in Mathematics Education Research** - Mathematics Educations as a dynamic field with growing input from research, place and purpose of mathematics education research, trends in mathematics education, ethical issues in mathematics education research. **[16 hours]**

**Unit II Interdisciplinary Research in Mathematics Education** - Exploring potential research area, research design in Mathematics Education; Debates in Mathematics Education. **[12 hours]**

**Unit III International Organizations working in Mathematics Education** - Comparative, Collaborative and Cross cultural research in Mathematics Education. **[10 hours]**

**Unit IV Learning from Existing Research Practices** - Reviewing seminal research work in Math education. **[7 hours]**

**5. Tutorial Details**

1. Prepare a research literature review matrix for any relevant research topic of your choice in mathematics education.

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2. Prepare a comparative analysis sheet of six research journals in mathematics education.
3. Prepare a poster presentation for a seminal research that made a significant contribution in mathematics education.

**6. Essential/Recommended Readings**

- Lester F.K. (Ed.). (2007). *Second Handbook of Research on Mathematics Teaching and Learning*, Information Age Publishing.
- Schoenfeld A.H. (Ed.). (2007). *Assessing Mathematical Proficiency*, Cambridge University Press.
- Cobb P. & Bauersfeld H. (Eds.). (1995). *The Emergence of Mathematical Meaning: Interaction in Classroom Cultures*, Lawrence Erlbaum Associates.

**7. Suggestive Reading**

- Burton, L. (2004). *Mathematics education and language: Interpreting research in mathematics education*. Routledge.
- Lester, F. K. (Ed.). (2007). *Second handbook of research on mathematics teaching and learning*. Information Age Publishing.
- Leung, A., & Cai, J. (Eds.). (2015). *Research in mathematics education: Theories, practices, and new directions*. Springer.