

**CENTRAL UNIVERSITY OF PUNJAB**



**Ph.D. in Education**

**Batch 2022**

**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
- analysing 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 Process and Statistics	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.707	Computer Applications in Teaching and Research	Skill Based	0	0	4	2
EDU.710	Extension Project	Skill Based	0	0	4	2
EDU.709	Thematic Paper	Skill Based	0	0	4	2
EDU.752	Teaching Assistantship	Skill Based	0	0	2	1
EDU.711	International Mentoring	Value added course	0	1	0	1
	<b>Total</b>		<b>7</b>	<b>1</b>	<b>14</b>	<b>15</b>

**Course Title: RESEARCH PROCESS AND STATISTICS**

**Course Code: EDU.712**

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:** Explore the different approaches to research

**CLO 2:** Review the related literature

**CLO 3:** Develop a research proposal

**CLO 4:** Select appropriate sampling design for different types of research study

**CLO 5:** Construct tools for different types of research

**CLO 6:** Document and disseminate research findings in education

**CLO 7:** Develop skills in applying SPSS in data analysis and interpretation

Units/Hours	Contents	Mapping with CLOs
<b>Unit I 16 Hours</b>	<ul style="list-style-type: none"> <li>Research approaches: Logical positivism, phenomenology, ethnography, and triangulation, quantitative, qualitative; types of research and their applications: according to purpose and method</li> <li>Historical Research: Primary and secondary sources of information, external and internal criticism of the source</li> <li>Descriptive Research: Assessment studies, evaluation studies, ex-post facto studies, replication and meta-analysis.</li> <li>Experimental research: Types of experimental research designs: designing and developing appropriate experimental designs for research problems.</li> </ul> <p><b>Learning Activities:</b> group discussion, Mapping the ideas, Brain storming and illustration of Case study</p>	<b>CLO1</b>
<b>Unit II 12 Hours</b>	<ul style="list-style-type: none"> <li>Process to select a problem and review of related literature</li> <li>Sampling design: Selecting appropriate</li> </ul>	<b>CLO2</b>

	<p>probability and non-probability sampling techniques for qualitative and quantitative research problems</p> <p><b>Learning Activities:</b> group discussion, Mapping the ideas, Brain storming and illustration of Case study</p>	<p><b>CLO3</b></p> <p><b>CLO4</b></p>
<p><b>Unit III</b> <b>16 Hours</b></p>	<ul style="list-style-type: none"> <li>• Quantitative research methods and tools: Selection, types and application</li> <li>• Qualitative research methods and tools: Selection, types and application</li> <li>• Mixed Method: Meaning and characteristics, designs and their application</li> </ul> <p><b>Learning Activities:</b> Group discussion, Mapping the ideas, Brain storming and illustration of Case study</p>	<p><b>CLO4</b></p> <p><b>CLO5</b></p>
<p><b>Unit IV</b> <b>16 Hours</b></p>	<ul style="list-style-type: none"> <li>• Data analysis in quantitative &amp; qualitative research: Content analysis, inductive, logical</li> <li>• Application of SPSS for data analysis and interpretation: t-test, F-test, chi-square test, ANCOVA, correlation, factor analysis, regression and prediction</li> </ul> <p><b>Learning Activities:</b> Group discussion, Mapping the ideas, Brain storming and illustration of Case study and Individual presentation</p>	<p><b>CLO6</b></p> <p><b>CLO7</b></p>

### 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.
- Medhi, J. (2014). *Statistical methods- an introductory text*. New Delhi: New Age International (P) Ltd. Publishers.
- 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.
- Sabo, R., & Boone, E. (2013). *Statistical research methods- a guide for non-statistician*. Springer Publications.
- Weirisma. W., & Stephen G. (2009). *Research methods in Education*. New York: Pearson Education
- Wellington, J. (2015). *Educational Research*. New Delhi: Bloomsbury Academic

**Course Title: Curriculum, Pedagogy and Evaluation**

L	T	P	Credit
1	0	0	1

**Course Code: UNI.753**

**Course Learning Outcomes (CLO):**

**Total Hours: 15**

After completion of the course, scholars shall be able to;

**CLO1:** Analyze 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 4 Hours</b>	1. Curriculum: Concept and Principles of curriculum development, Foundations of Curriculum Development. 2. Types of Curriculum Designs- Subject centered, learner centered, experience centered and core curriculum. Designing local, national, regional and global specific curriculum. 3. Choice Based Credit System and its implementation. <b>Learning Activities:</b> Group discussion	<b>CLO1, CLO4</b>
<b>Unit II 4 Hours</b>	1. Process of Curriculum Development: Formulation of graduate attributes, course/learning outcomes, content selection,	<b>CLO2, CLO4</b>

	<p>organization of content and learning experiences, transaction process.</p> <p>2. Comparison among Interdisciplinary, multidisciplinary and trans-disciplinary approaches to curriculum.</p> <p><b>Learning Activities:</b> Preparation and submission of report on the discussed concepts</p>	
<b>Unit III 3 Hours</b>	<p>1. Conceptual understanding of Pedagogy.</p> <p>2. Pedagogies: Pedagogy, Cybergogy and Heutagogy with special emphasis on Blended learning, Flipped learning, Dialogue, cooperative and collaborative learning</p> <p>3. Three e- techniques: Moodle, Edmodo, Google classroom</p> <p><b>Learning Activities:</b> Preparation and submission of report on the discussed concepts</p>	<b>CLO3, CLO4</b>
<b>Unit IV 4 Hours</b>	<p>1. Assessment Preparation: Concept, purpose, and principles of preparing objective and subjective questions.</p> <p>2. Conducting Assessment: Modes of conducting assessment – offline and online; use of ICT in conducting assessments.</p> <p>3. Evaluation: Formative and Summative assessments, Outcome based assessment, and scoring criteria.</p> <p><b>Learning Activities:</b> Discussion and dialogue on modes of conducting assessment</p>	<b>CLO3, CLO4</b>

### **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/0004/467095/Fundamentals\\_of\\_Blended\\_Learning.pdf](https://www.westernsydney.edu.au/__data/assets/pdf_file/0004/467095/Fundamentals_of_Blended_Learning.pdf)
- <https://www.uhd.edu/academics/university-college/centers-offices/teaching-learning-excellence/Pages/Principles-of-a-Flipped-Classroom.aspx>
- <http://leerwegdialog.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**

**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:** Analyse Research Metrics



Unit/ Hours	Course content	CLOs
<b>Unit I</b> <b>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</b> <b>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> <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>CLO2</b>
<b>Unit III</b> <b>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</b> <b>4 Hours</b>	<b>Open Access Publishing</b> <ul style="list-style-type: none"> <li>• Open access publications and initiatives</li> <li>• SHERPA/ROMEIO online resource to check publisher copyright &amp; self-</li> </ul>	<b>CLO3</b>

	archiving policies <ul style="list-style-type: none"> <li>• Software tool to identify predatory publication developed by SPPU</li> <li>• Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal.</li> </ul>	
<b>Unit V 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 7 Hours</b>	<b>Databases and Research Metrics</b> <ul style="list-style-type: none"> <li>• Databases: Indexing databases; Citation database: Web of Science, Scopus etc.</li> <li>• Research Metrics: Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score; Metrics : h-index, i10 index</li> </ul>	<b>CLO4</b>

### **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.
- Killpatrick, D.L. (2005). *Evaluating training Programmes: The four Levels*. San Francisco: Brett-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.
- Weirsmas, W., & Stephen G. (2009). *Research methods in Education*. New York: Pearson Education.

**Course Title: COMPUTER APPLICATIONS IN TEACHING AND RESEARCH**

**Course Code: EDU.707**

<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
0	0	4	2

**Course Learning Outcomes**

**Total Hours: 30**

After completion of the course the students will be able to

**CLO1:** Examine the recent innovations and future perspectives of education technology

**CLO2:** Develop multimedia presentation

**CLO03:** Explore web as a teaching-learning resource

**CLO04:** Appraise security concerns related to interactive content

**CLO05:** Use appropriate techniques to analyse quantitative and qualitative data

**CLO06:** Apply e- learning tools in teaching learning, training and research

<b>Unit/ Hours</b>	<b>Course Content</b>	<b>Mapping with CLOs</b>
<b>Unit I 7 hours</b>	<ul style="list-style-type: none"> <li>• Knowledge, Organization and sharing tools: social bookmarking, accessing online, databases, journals, encyclopaedia, browser, sharing/storage (Google drive, drop box etc.), presentations (slide share, TED talks etc.)</li> <li>• ICT Based Learning Processes and Resources: Using the web as a teaching-learning resource. Academic and Research content on the web: Online journals and abstraction services.</li> </ul>	CLO1, CLO2, CLO3
<b>UNIT II 8 Hours</b>	<ul style="list-style-type: none"> <li>• Organizer tools: calendars, group manager, task manager, planner, mapping/mind mapping (google maps, navigators, mind master etc.)</li> <li>• Creating a profile on Academia, Research Gate and Google scholar. Free websites and apps: Group me- discussion boards, voice thread groups to collaborate around any type of multimedia. Creating and sharing of Files in Google Documents and working with Google Forms.</li> <li>• Plagiarism: Concept and Types. Soft wares for checking plagiarism</li> </ul>	CLO2, CLO3
<b>UNIT III 7 Hours</b>	<ul style="list-style-type: none"> <li>• Create collage, Jing screen capture, Google Ed apps, Working in Desktop publisher and Canva. Video conferencing etc.</li> <li>• Creating a Blog and an e-portfolio, Security concerns related to interactive content: Computer Hacking, Cyberbullying and Cybercrimes.</li> </ul>	CLO4, CLO6
<b>UNIT IV 8 Hours</b>	<ul style="list-style-type: none"> <li>• Online Learning, online courses and learning management system. Using tools of ICT in classroom- Edmodo, Padlet, Prezi, Socrative, Google classroom, Seesaw, Pear deck, Near pod, Sutori, Video cutting and editing tools: Bandicut, Binumi, Bandicam and Biteable</li> <li>• Application of SPSS in Educational Statistics</li> </ul>	CLO5, CLO6

### Evaluation Criteria

Content	Marks
Skill Assessment	50
Viva Voce	20
Practical Record	30
<b>Total</b>	<b>100</b>

### Suggested Readings

- Allan, B. (2007). Blended learning: Tools for teaching and training. London: Facet Publishing House.
- Ally, M. & Tsinakos, A. (2014). Increasing access through mobile learning. Available at: [http://oasis.col.org/bitstream/handle/11599/558/pub\\_Mobile%20Learning\\_web.pdf?sequence=4&isAllowed=y](http://oasis.col.org/bitstream/handle/11599/558/pub_Mobile%20Learning_web.pdf?sequence=4&isAllowed=y)
- Antoninis, M., & Montoya, S. (2018). A *global framework to measure digital literacy*. UIS, UNESCO. Available at: <http://uis.unesco.org/>
- Azoulay, A. (2018). Making the most of artificial intelligence. *The UNESCO Courier*, 3.
- Bali, M. (2017). Against the 3A's of EdTech: AI, analytics, and adaptive technologies in Education. *The Chronicle of Higher Education*. Available at: <https://www.chronicle.com/blogs/profhacker/against-the-3as-of-edtechai-analytics-and-adaptive-technologies-ineducation/64604>
- Bansal, C., & Misra, P. K. (2018). Implications of Korean Experiences of ICT in Education in Indian Context: A Viewpoint. *I-manager's Journal of Educational Technology*, 14(4), 61-70.
- Beardsley, S., Enriquez, L., Bonini, S., Sandoval, S., & Brun, N. (2010). Fostering the Economic and Social Benefits of ICT. Global Information Technology Report, World Economic Forum 2010. Available at: <https://cncpanama.org/phocadownload/Global%20Information%20Technology%20Report%202009-2010.pdf>
- Encyclopedia Britannica. (2020). Artificial intelligence. Available at: <https://www.britannica.com/technology/artificial-intelligence>
- Fadel, C., Holmes W., Bialik M. (2019). Artificial intelligence in Education: Promises and implications for teaching and learning.
- Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education promises and implications for teaching and learning. Boston, MA: The Center for Curriculum Redesign. Available at: <https://curriculumredesign.org/wp-content/uploads/AIED-Book-Excerpt-CCR.pdf>

- Laanpere, M., Pata, K., Normak, P. & Põldoja, H. (2014). Pedagogy-driven design of digital learning ecosystems. *Computer Science and Information Systems*, 11(1), 419–442.
- Lesgold, A.M. (2019). *Learning for the age of artificial Intelligence: Eight education competences*. Routledge: New York.
- Management Association, Information Resources. (2017). *Blended learning: Concepts, methodologies, tools, and applications*. US: IGI Global.
- Marolla, C. (2019). *Information and communication technology for sustainable development*. US: Taylor & Francis.
- MHRD (2012). *National policy on information and communication technology (ICT) in school education*. New Delhi: MHRD, Government of India.
- Mishra, S. (2013). *Understanding MOOCs*. Available at: [http://cemca.org.in/ckfinder/userfiles/files/EdTech%20Notes%202\\_Littlejohn\\_final\\_1June2013.pdf](http://cemca.org.in/ckfinder/userfiles/files/EdTech%20Notes%202_Littlejohn_final_1June2013.pdf)
- Misra, P. K. (2018). *MOOCs for teacher professional development: Reflections, and suggested actions*. *Open Praxis*, 10 (1), 67-77. Available at: <https://openpraxis.org/index.php/OpenPraxis/article/view/780/413>
- Montebello, M. (2017). *AI injected e-learning: the future of online education*. Berlin, Germany: Springer.
- Nye, B.D. (2015). Intelligent tutoring systems by and for the developing World: a review of trends and approaches for educational technology in a global context. *International Journal of Artificial Intelligence in Education*, 25(2), 177-203.
- OECD. (2019). *Artificial intelligence in society*. Paris: OECD Publishing. Available at: <https://ec.europa.eu/jrc/communities/sites/jrccties/files/eedfee77-en.pdf>
- Roberts, T. S. (2008). *Student plagiarism in an online world: Problems and solutions*. Hershey, USA: IGI Global.
- Roll, I., & Wylie, R. (2016). Evolution and revolution in artificial intelligence in education. *International Journal of Artificial Intelligence in Education*, 26 (2), 582-599.
- Sammons, J., & Cross, M. (2017). *The basics of cyber safety: Computer and mobile device safety made easy*. US: Elsevier Inc.
- Selwyn, N., Potter, J., & Cranmer, S. (2010). *Primary schools and ICT: Learning from pupil perspectives*
- Stanford Encyclopedia of Philosophy. (2020). *Artificial intelligence*. Available at: <https://plato.stanford.edu/entries/artificial-intelligence/>
- The World Bank. (2019). *ICT and education policies*. Available at: <https://www.worldbank.org/en/topic/edutech/brief/ict-education-policies>
- UNESCO. (2016). *Assessment experiences in digital technologies in education*. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000247330>

- UNESCO. (2018 ). UNESCO ICT competency framework for teachers. Available at : <https://unesdoc.unesco.org/ark:/48223/pf0000265721>
- UNICEF-WHO. (2015). Assistive technology for children with disabilities: Creating opportunities for education, inclusion and participation a discussion paper. Available at: <https://www.unicef.org/disabilities/files/Assistive-Tech-Web.pdf>
- Zhadko, O. & Ko, S. (2020). Best practices in designing courses with open educational resources. New York: Routledge.
- Zimmerman, M.R.(2018). *Teaching AI: Exploring new frontiers for learning*. Portland, Oregon: International Society for Technology in Education

**Course Title: EXTENSION PROJECT**

L	T	P	Credit
0	0	4	2

**Course Code: EDU.710**

The course aims at identifying local needs and issues involving research to solve problems for making a contribution to the local community.

**Course Learning Outcomes**

On successful completion of this course, students will be able to;

**CLO 1:** Establish a link between the community and profession

**CLO 2:** Identify community needs, issues and aspirations

**CLO3:** Analyse and suggest solutions to problems of community

**CLO4:** Make a contribution of their professional learning to the society

**Course Content**

- Identification of problem (within 4 weeks)
- Submission of research proposal (5<sup>th</sup> -8<sup>th</sup> week)
- Submission of research report (last week of semester)
- Presentation of work
- Submission of Paper for Publication

## Evaluation Criteria

<b>Content</b>	<b>Marks</b>
Project proposal	20
Project work report	50
Submission of paper for publication	10
Viva Voce	20
<b>Total</b>	<b>100</b>

**Course Title: THEMATIC PAPER**

<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
<b>0</b>	<b>0</b>	<b>4</b>	<b>2</b>

**Course Code: EDU.709**

### **Course Learning Outcomes:**

**Total Hours: 30**

After completion of the course the students will be able to

- CLO1:** Select a research area of their interest
- CLO2:** Identify variables relevant to the selected research area
- CLO3:** Summarize the findings of different research studies
- CLO4:** Write a thematic paper on the area of research
- CLO5:** Present thematic paper

The students will select an area of their choice with the direction of their supervisor within the first two weeks from the start of the semester. They will write a theme paper selecting a few variables from that area. There will be two presentations on the theme selected.

First presentation will be held during 6-7 weeks of the semester. Evaluation will be conducted on the following criteria by the concerned supervisor

- Content
- Significance of the area
- Presentation
- Response to questions asked by audience

Presentation will be of 30-45 min. duration. First evaluation will consist of 20 marks. Second presentation will be held during 12-13 weeks of the semester and will consist of 30 Marks. The criteria of evaluation and duration of presentation will be the same as mentioned above.



**Course Title: TEACHING ASSISTANTSHIP**

**Course Code: EDU.752**

<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>

**Course learning outcome**

**Total Hours: 30**

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).

**Course Title: INTERNATIONAL MENTORING**

L	T	P	Credit
0	1	0	1

**Course Code: EDU.711**

**15 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 international learning community for developing global vision

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

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

Units/Hours	Contents	Mapping with CLOs
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