

CENTRAL UNIVERSITY OF PUNJAB



**Ph.D. Education
(International Mentorship)**

Session - 2021-22

**Department of Education
School 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.

Course Structure of the Programme

Course Code	Course Title	Course Type	Credit Distribution			
			L	T	P	Total
EDU712	Research Process and Statistics in Education	Core Course	4	0	0	4
EDU707	Computer Applications and Digital Technology (Practical)	Skill Based	0	0	4	2
xxx	Teaching Assistantship (Practical)	Skill Based	0	0	4	2
EDU709	Thematic Paper (Practical)	Skill Based	0	0	4	2
xxx	Curriculum Design and Development*	Skill Based	0	0	2	1
EDU711	International Mentoring**	Value added course	0	0	0	0
EDU751	Research and Publication Ethics	Core Course	2	0	0	2
	Total		6	0	14	13

***This course will be conducted in collaborative and workshop mode**

****International mentoring will be of total 10 hours duration through online sessions with international mentors**

Course Title: RESEARCH PROCESS AND STATISTICS IN EDUCATION

Course Code: EDU712

L	T	P	Credits
4	0	0	4

Learning Outcomes

Total Hours: 60

After completion of the course the students will be able to

- Explore the different approaches to research
- Review the related literature
- Develop a research proposal
- Select appropriate sampling design for different types of research study
- Construct tools for different types of research
- Document and disseminate research findings in education
- Develop skills in applying SPSS in data analysis and interpretation

Course Content

Unit I

16 hours

1. Research approaches: Logical positivism, phenomenology, ethnography, and triangulation, quantitative, qualitative; types of research and their applications: according to purpose and method
2. Historical Research: Primary and secondary sources of information, external and internal criticism of the source
3. Descriptive Research: Assessment studies, evaluation studies, ex-post facto studies, replication and meta-analysis.
4. Experimental research: Types of experimental research designs: designing and developing appropriate experimental designs for research problems.

Unit II

12 hours

1. Process to select a problem and review of related literature
2. Sampling design: Selecting appropriate probability and non-probability sampling techniques for qualitative and quantitative research problems

Unit III

16 hours

1. Quantitative research methods and tools: Selection, types and application
2. Qualitative research methods and tools: Selection, types and application
3. Mixed Method: Meaning and characteristics, designs and their application

Unit IV

16 hours

1. Data analysis in quantitative & qualitative research: Content analysis, inductive, logical

2. Application of SPSS for data analysis and interpretation: t-test, F-test, chi-square test, ANCOVA, correlation, factor analysis, regression and prediction

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.

- Kilkapatrick, 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: COMPUTER APPLICATIONS AND DIGITAL TECHNOLOGY

Course Code: EDU707

			Credits
L	T	P	s
0	0	4	2

Learning Outcomes

Total Hours: 30

After completion of the course the students will be able to

- Examine the recent innovations and future perspectives of education technology

- Develop multimedia presentation
- Explore web as a teaching-learning resource
- Appraise security concerns related to interactive content
- Use appropriate techniques to analyse quantitative and qualitative data
- Apply e- learning tools in teaching learning, training and research

Course Content

UNIT I

7 hours

1. 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.)
2. 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.

UNIT II

8 hours

1. Organizer tools: calendars, group manager, task manager, planner, mapping/mind mapping (google maps, navigators, mind master etc.)
2. Free websites and apps: Group me- discussion boards, voice thread groups to collaborate around any type of multimedia.
3. Plagiarism: Concept and Types. Soft wares for checking plagiarism

UNIT III

7 hour

1. Create collage, Jing screen capture, Google Ed apps, Video conferencing etc.
2. Security concerns related to interactive content: Computer Hacking, Cyber Bullying and Cybercrimes.

UNIT IV

8 hours

1. 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
2. Application of SPSS in Educational Statistics

Evaluation Criteria

Content	Marks
Skill Assessment	50
Viva Voce	20

Practical Record	30
Total	100

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
- Antoninis, M., & Montoya, S. (2018). *A global framework to measure digital literacy*. UIS, UNESCO. Available at: <http://uis.unesco.org/en/blog/global-framework-measure-digitalliteracy>
- 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
- 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: TEACHING ASSISTANTSHIP
Course Code: xxx

L	T	P	Credit
0	0	4	2

Total Hours: 30

The students are expected to be effective teachers irrespective of the discipline, they belong to. Thus, this paper aims at familiarizing the research scholars to pedagogical practices, knowledge of evaluation systems and classroom communication.

The students will observe the various transaction modes in the class of their supervisor for four periods per week and they will demonstrate it to practise and develop teaching skills. In the fourteenth week, the supervisor will conduct exam of teaching skills in his teaching class.

Evaluation Criteria

Content	Marks
Conceptual Knowledge	10
Explanation skill	10
Communication Skill	10
Modes of Transaction used	10
Evaluation skill	10
Total	50

Course Title: THEMATIC PAPER
Course Code: EDU709

L	T	P	Credit
0	0	4	2

Learning outcomes:

Total Hours: 30

After completion of the course the students will be able to

- Select a research area of their interest
- Identify variables relevant to the selected research area
- Summarize the findings of different research studies
- Write a thematic paper on any contemporary issue
- Present thematic paper

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

First presentation will be held during 6-7 week of the semester. Two examiners from the department will evaluate it on the following criteria.

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

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 same as mentioned above.

Course Title: CURRICULUM DESIGN AND DEVELOPMENT

Course Code: xxxxxx

L	T	P	Credits
0	0	2	1

Learning outcomes

Total Hours: 15

After completion of the course students will be able to

- Analyze the principles and bases of curriculum development
- Examine the processes involved in the curriculum development
- Develop curriculum of a specific course / programme

Course Content

UNIT I

1. Curriculum: Concept and Principles of curriculum development, Foundations of Curriculum Planning: Philosophical Bases, Sociological basis and Psychological Bases
2. Types of Curriculum Designs- Subject centered, learner centered, experience centered, problem centered and core curriculum. Designing local, national, regional and global specific curriculum. Choice Based Credit System and its implementation

UNIT II

1. Process of Curriculum development: Formulation of graduate attributes, course outcomes, content selection, organization of content and learning experiences, transaction process, evaluation and follow-up
2. Models of Curriculum Development: Hilda Taba Model (Inductive Model/ Grassroots Model), The Taylor Model, The Glathorn's Naturalistic Model, Weinstein and Fantini Model

UNIT III

1. Curriculum Change: Meaning, types and factors, Approaches to curriculum change, curriculum change and improvement Role of stakeholders in curriculum change students, teachers and educational administrators

UNIT IV

1. Concept and purpose, Types of curriculum evaluation: Formative and Summative. Models of Curriculum Evaluation: Tyler's Model, Stakes' Model, Scriven's Model, Kirkpatrick's Model
2. Tools and Techniques of Curriculum evaluation: Observation, Oral, Interview, Opinionnaire and Focus group discussion, rating scale etc.

Transaction Mode

Lecture, dialogue, peer group discussion, workshop

Evaluation criteria

Designing of the course structure – 30 Marks

Content development of any one course of PG programme - 20 marks

Suggested Readings

- Allyn, Bacon, Beane, J. A., Conrad, E. P., & Samuel J. A., (1986). *Curriculum planning and development*. Boston: Allyn & Bacon.
- Beane, J.A. Topfer, Jr. C.F, Alessi, Jr. S.J. (1986): *Curriculum Planning and Development*, London: Allyn and Bacon, INC.
- 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.
- Deng, Z. (2009): The Formation of a School Subject and the Nature of Curricular Content, Hong Kong: *Journal of Curriculum Studies*, 41:5
- Dewal, O.S. (2004): National Curriculum, in J.S.Rajput(Ed.). *Encyclopedia of Education*, New Delhi: NCERT
- Guy, J and Small, I. (2010): *The Nature of Disciplinary Knowledge*, Cambridge University Press.
- Johnson, M. (1967): *Definitions and Models in Curriculum Theory*, Educational Theory
- 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
- Olivia, Peter F (1988): *developing the Curriculum*, (2nd ed.), London: Scott, Foreman and Company.
- Ornstein, A.C. & Hunkins, E (1998). *Curriculum. Foundations, Principles and Issues*.
- Rao, V. K. (2015). *Principles of curriculum*. New Delhi: APH publishing Corporation.
- Taba, H. (1962): *Curriculum Development: Theory and Practice*, New York: Harcourt Brace Jovanovich
- Taba, H. (1962): *Curriculum Development: Theory and Practice*, New York: Harcourt Brace Jovanovich Tala, M. (2012). *Curriculum development: Perspectives, principles*

Course Title: INTERNATIONAL MENTORING

L	T	P	Credit
0	0	0	0

Course Code: EDU711

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

Learning Outcomes

After completion of the course the students will be able to

- Establish a link with international learning community for developing global vision
- Identify thrust areas of global research

- Analyse and suggest solutions to problems at global level

Course content

- 1) Virtual session/face to face with international experts on various research areas
- 2) Virtual interaction/face to face with international students

Evaluation criteria

e-assessment (Report writing) - 50 marks

Course Title: RESEARCH AND PUBLICATION ETHICS

Course Code: EDU751

L	T	P	Credit
2	0	0	2

Learning Outcomes

Total Hours: 30

After completion of the course the students will be able to

- Demonstrate Intellectual honesty and research integrity
- Judge publication ethics, authorship and contributor ship
- Identify thrust areas of global research and Open access publications and initiatives
- Analyse Research Metrics

Course content

Unit I Philosophy and Ethics

3 hours

- Introduction to Philosophy : definition, nature and scope, content, branches
- Ethics : definition, moral philosophy, nature of moral judgements and reactions

Unit II Scientific Conduct

5 hours

- Ethics with respect to science and research
- Intellectual honesty and research integrity
- Scientific misconducts : Falsification, Fabrication, and Plagiarism (FFP)
- Redundant publications : duplicate and overlapping publications
- Selective reporting and misrepresentation of data

Unit III: Publication ethics

7 hours

- Publication ethics : definition, introduction and importance
- Best practices/ standards setting initiatives and guidelines: Committee on publication Ethics (COPE). Salami Slicing
- Conflicts of interest

- Publication misconduct : definition, concept, problems that lead to unethical behaviour and vice versa, types
- Violation of publication ethics, authorship and contributor ship
- Identification of publication misconduct, complaints and appeals
- Predatory publishers and journals

Unit IV Open Access Publishing**4 hours**

- Open access publications and initiatives
- SHERPA/ROMEIO online resource to check publisher copyright & self-archiving policies
- Software tool to identify predatory publication developed by SPPU
- Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal.

Unit V Publication Misconduct**4 hours**

- Group Discussions: Subject specific ethical issues, FFP, authorship; conflicts of interest; complaints and appeals: examples and fraud from India and abroad
- Software tools: Use of plagiarism software like Turnitin Urkund and other open source software tools

Unit VI Databases and Research Metrics**7 hours**

- 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

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 Distributers (P) Ltd.
- 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

- 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.
- Weirsmas, W., & Stephen G. (2009). *Research methods in Education*. New York: Pearson Education