

**Central University of Punjab,
Bathinda**



**Department of Applied Agriculture
Ph.D. (Agribusiness)**

Session-2021

School of Basic Sciences

Graduate attributes

The programme will enable learners to adopt themselves as research and development professionals/experts (Agribusiness Policy Advisors, Industry Experts *etc.*) in the field of agribusiness for meeting requirements of industry, regulatory bodies and other organizations at various levels (regional, national and international).

Ph.D. Program in Agribusiness Course Structure of the Programme

Course Code	Paper	L	T	P	Total Credits
ABM.703	Research Methodology and Computer Applications	4	0	0	4
ABM.704	Agricultural Input and Output Marketing	4	0	0	4
ABM.707	Seminar	2	0	0	2
ABM.751	Research and Publication Ethics	2	0	0	2
ABM.752	Teaching Assistantship	0	0	2	1
UNI.753	Curriculum, Pedagogy and Evaluation	1	0	0	1
	Total	13	0	2	14

L: Lectures T: Tutorial P: Practical Cr: Credits

Evaluation:

The theory courses shall be evaluated by Continuous Assessment, Mid Semester Test and End Semester Exams as detailed below

Continuous Assessment : 25 marks

Mid Semester Test : 25 marks

End Semester Exam (Subjective) : 50 marks

L	T	P	Credits
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4	0	0	4
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Course Code: ABM.703

Course Title: Research Methodology and Computer Applications

Learning Outcomes

Students will be able to:

- Illustrate the basic good practices to be followed in research.
- Formulate the principles of ethics in research which will help them to understand the set of conduct norms applied in agribusiness.
- Interpret the ethical issues involved in agriculture and allied research.
- Judge the misconduct, fraud and plagiarism in research.
- Utilize the computer and statistical tools for analyzing and interpreting the data.

UNIT – I

15 Hours

Introduction to Research: Meaning, Objectives, types and significance of Research- Research Methods vs. Research Methodology- Business Research: Objectives and Characteristics, Scope, Types and Significance- Qualities of Good Researcher; Research Ethics and Plagiarism.

Research Process: Formulation and Selection of Research Problem- Literature Review- Methods and Reporting, Identifying Variables, Constructing Hypotheses; Conceptualizing a Research Design- Meaning and Types of Research Design.

Sampling Design: Sampling Techniques- Probability and Non-Probability, Sample Size and its Determination, Qualities of a good Sample.

UNIT – II

15 Hours

Collection and Presentation of Data: Constructing an Instrument for Data Collection- Methods for Data Collection. Validity and Reliability of Research Instruments- Ethical issues in Data Collection; Processing and Displaying Data.

Data Analysis and Interpretation: Introduction to Qualitative, Quantitative and Mixed methods, Quantitative Methods- Univariate, Bivariate and Multivariate, Qualitative Methods- Grounded Theory and Triangulations, Mixed Methods- Convergent Parallel, Explanatory Sequential, Exploratory Sequential and Transformative.

Testing of Hypotheses: Parametric and Non-Parametric Test, Errors and Level of Significance.

Technical Writing: Scientific writing, writing synopsis, Research paper, Poster preparation, oral presentations and Dissertations. Reference Management using various softwares such as Endnote, reference manager, Refworks, etc. Communication skills: defining communication; type of communication;

techniques of communication, etc.

UNIT – III

15 Hours

Computer Applications: Microsoft Office Application, Literature, Reference and Citation Management.

Use of MS Word in Business Research: Creation of Tables, Diagrams, and Graphs, Creation of Equations, Preparing Table of Contents, Endnote, Footnote, Bibliography, Auto-Spelling and Grammar check, Use of Thesaurus & Translation facilities, Use of Power Point Presentations in Business Research.

Use of MS Excel in Business Research: Data Tabulation & Processing- Data Validation, Creation of Tables, Diagrams, Use of Mathematical, Statistical, Functional and Logical formula for computations, Use of analysis.

UNIT – IV

15 Hours

Introduction to Software Packages for Business Research SPSS: General Orientation to Research in Business Management, Entering Describing and Obtaining Data, Statistically Analysing Data: Parametric and Non-Parametric, Survey Methods for research in Business Management and Reporting and Presenting Research.

Suggested Reading:

1. Gupta, S. (2010). *Research Methodology and Statistical Techniques*. Deep & Deep Publications (P) Limited, New Delhi.
2. Kothari, C.R., Garg, G. (2019). *Research Methodology: Methods and Techniques*. 4th Edition, New Age International (p) Limited. New Delhi.
3. Sahay, Vinaya and Pradumna Singh (2009). *Encyclopedia of Research Methodology in Life Sciences*. Anmol Publications. New Delhi.
4. Kauda J. (2012). *Research Methodology: A Project Guide for University Students*. Samfunds literature Publications.
5. Dharmapalan B. (2012). *Scientific Research Methodology*. Narosa Publishing
6. Adams J., et al, *Research Methods for Business and Social Science Research*, Sage Publishing, (2/e), 2014.
7. Bajpai N., *Business Research Methods*, Pearson, (2/e), 2017.
8. Kumar R., *Research Methodology: A step by step guide for Beginners*, Sage Publishing, (4/e), 2014.
9. Mishra P., *Business Research Methods*, Oxford University Press, (1/e), 2014.
10. Phanse S.S., *Research Methodology: Logic, Methods and Cases*, Oxford University Press, (1/e), 2016.

L	T	P	Credits
4	0	0	4

Course Code: ABM.704

Course Title: Agricultural Input and Output Marketing

Learning Outcome:

After completion of this course learners will be able to

- Assess the agri input and output sectors and their marketing.
- Explain the importance of agri inputs and output sectors, their marketing to support the agri industry by meeting various inputs needs to different organisations and responding to rapid changes.
- Classify the different types of agriculture input and their use.
- Analyse the role of government, their policies and other agencies in this sector.
- Categorize the various companies which are functioning in the agri-input sector.

UNIT – I **15 hours**

Agriculture input and output marketing environment-Current status, trends, market structure, infrastructure, competition; Government intervention in agricultural inputs and outputs marketing

UNIT – II **15 hours**

Buyers/users behaviour; Market Segmentation; Product and Pricing; Promotion and advancement in promotional strategies.

UNIT – III **15 hours**

Marketing Channels for different agri inputs and outputs; Evaluation of marketing costs and efficiencies.

UNIT – IV **15 hours**

WTO and Indian Agriculture; Case Studies- Competitive marketing strategies and advancements in agricultural marketing.

Transactional Modes:

Mode of transaction shall be Lecture, presentation, Lecture-cum-demonstration, Seminar, discussion etc.

Suggested Readings:

1. Acharya, S. S. and Agarwal, N. L., 2011. Agricultural Marketing in India. 4th Ed. Oxford and IBH.
2. Broadway A. C. and Broadway, A. A., 2003. A Text Book of Agri-Business Management. Kalyani.
3. Pingali, V. and Kaundinya, R., 2014. Agri-input marketing in India, SAGE.
4. Singh Sukhpal, 2004, Rural Marketing- Focus on Agricultural Inputs. Vikas Publ. House.
5. Singh, A. K. and Pandey, S., 2005. Rural Marketing. New Age.

L	T	P	Cr
2	0	0	2

Course Code: ABM.707

Course Title: Seminar

Learning Outcome:

- After the completion of the course students will be able to survey literature, write clear and concise technical reports and communicate concise technical presentation based on constructive criticism effectively.

Transactional Modes:

Mode of transaction shall be Lecture-cum-demonstration, dialogue/discussion, etc.

Evaluation criteria:

Seminars shall be evaluated as detailed below:

Continuous Assessment

Innovation in idea : 20 marks

Interaction with Supervisor : 20 marks

Attendance : 10 marks

Assessment of end term evaluation

Report : 15 marks

Content : 10 marks

Presentation skills : 15 marks

Responses to queries : 10 marks

Course Code: ABM.751

Course Name: RESEARCH AND PUBLICATION ETHICS (RPE)

L	T	P	C r
2	0	0	2

Total Hours-30

Learning Outcome: The students will be able to

- Aware about the publication ethics and publication misconducts.
- Explain philosophy of science and ethics, research integrity and publication ethics
- Identify research misconduct and predatory publication based on hands on sessions
- Outline indexing and citation databases
- Make use of open access publications, research metrics (citation, h- index, impact factor) and plagiarism tools.

Overview:

This course has total of 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

Class room teaching, guest lectures, group discussions, and practical sessions.

Evaluation:

Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

Course Structure:

The course comprises of six modules listed in below table. Each module has 4-5 units.

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4

RPE 03	Publication Ethics	7
Practic e		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics ^a	7
	Total	30

THEORY

RPE 01: Philosophy and Ethics

3 hrs

1. Introduction to Philosophy: Definition, nature and scope, concept, branches
2. Ethics: Definition, moral philosophy, nature of moral judgements and reactions

RPE 02: Scientific Conduct

5 hrs

1. Ethics with respect to science and research
2. Intellectual honesty and research integrity
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
4. Redundant publications: Duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

RPE 03: Publication Ethics

7 hrs

1. Publication ethics: Definition, introduction and importance
2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: Definition, concept, problems that lead to unethical behavior and vice versa, types.
5. Violation of publication ethics, authorship and contributionship
6. Identification of publication misconduct, complaints and appeals
7. Predatory publishers and journals

PRACTICE

RPE 04: Open Access Publishing

4 hrs

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

RPE 05: Publication Misconduct

4 hrs

A. Group discussions (2 hrs)

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

B. Software tools (2 hrs)

Use of plagiarism software like Turnitin, Urkund and other open source software tools

RPE 06: Databases and Research Metrics

7 hrs

A. Databases (4 hrs)

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

B. Research Metrics (3 hrs)

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, almetrics.

Course Code: ABM.752

Course Title: Teaching Assistantship

L	T	P	Credit
0	0	2	1

Learning Outcome:

At the end of this skill development course, the scholars shall be able to (1) familiarize themselves with the pedagogical practices of effective class room delivery and knowledge evaluation system

(2) manage large and small classes using appropriate pedagogical techniques for different types of content

Activities and Evaluation:

- The scholars shall attend Master degree classes of his/her supervisor to observe the various transaction modes that the supervisor follows in the class room 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 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.
- 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 class room before the master degree students for one hour (45 minutes teaching + 15 minute 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 Code: UNI.753

Course Title: Curriculum, Pedagogy and Evaluation

L	T	P	Credit
1	0	0	1

Learning outcomes:

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

- analyze the principles and bases of curriculum design and development
- examine the processes involved in curriculum development
- develop the skills of adopting innovative pedagogies and conducting students' assessment
- develop curriculum of a specific course/programme

Course Content

Unit I Bases and Principles of Curriculum hours 4

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. Choice Based Credit System and its implementation.

Unit II Curriculum Development hours 4

1. Process of Curriculum Development: Formulation of graduate attributes, course/learning outcomes, content selection, organization of content and learning experiences, transaction process.
2. Comparison among Interdisciplinary, multidisciplinary and trans-disciplinary approaches to curriculum.

Unit III Curriculum and Pedagogy hours 3

1. Conceptual understanding of Pedagogy.
2. Pedagogies: Peeragogy, Cybergogy and Heutagogy with special emphasis on Blended learning, Flipped learning, Dialogue, cooperative and collaborative learning
3. Three e- techniques: Moodle, Edmodo, Google classroom

Unit IV Learners' Assessment hours 4

1. Assessment Preparation: Concept, purpose, and principles of preparing objective and subjective questions.
2. Conducting Assessment: Modes of conducting assessment – offline and online; use of ICT in conducting assessments.
3. Evaluation: Formative and Summative assessments, Outcome based assessment, and scoring criteria.

Transaction Mode

Lecture, dialogue, peer group discussion, workshop

Evaluation criteria

There shall be an end term evaluation of the course for 50 marks for duration of 2 hours. 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.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>