Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Agriculture
Ph.D. (Ag.) Agricultural Extension Education

Course Code	Course Name	TEACHING & EVALUATION SCHEME							
		Theory			Practical		Credits		
		END SEM University Exam	Mid term exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	P	Total
PHDEXT 603	Technology Commercialisation and Incubation	60	0	40	30	20	2	1	3

1. Legends: L - Lecture**; P –** Practical
**2. ***Teacher Assessment shall be based on following components: Quiz / Assignment / Project /Participation in Class.

Aim of the course

This course is aimed to develop a critical understanding among extension students about how the technology commercialisation process is linked to IPR management and entrepreneurship development.
The course is organized as follows:

No.	Blocks	Units
1.	Technology commercialisation and the modern context. IPR, GMO	1. Basics of Technology Commercialisation Nature of Agricultural Technology. Basics of Technology Transfer and Commercialisation 2. Introduction to IPR, Management of IPR 3. Traditional and Indigenous Knowledge, Geographical Indications. Genetically Modified Organisms
2.	Technology Commercialisation and Incubation	4. Assessment and refinement of various technologies Technology Commercialisation Strategies Technology Licensing 5. Basics of Technology Incubation, Technology Promotion Technology Scouting

Theory

Unit 1 Technology - Definition, functions, process of technological advancement – invention, discovery, innovation and technology; types of innovation - Basic research, Breakthrough innovation, Disruptive Innovation and Sustaining Innovation; Technology transfer and commercialisation
Nature of Agricultural Technology Agricultural technology – meaning, types; technology generation system; technology life cycle
Basics of Technology transfer and commercialisation Technology transfer Vs Commercialisation; Technology commercialisation process – elements, models, systems and processes; Technology transfer model – research, disclosure, development and commercialization

Unit 2: Introduction to IPR; Overview & Importance; Genesis; IPR in India and IPR abroad; Patents, copyrights, trademarks & trade secrets, geographical indication, industrial design; Emergence of IPR Regimes and Governance Frameworks - Trade-Related Aspects of Intellectual Property Rights (TRIPS), Convention on Biological Diversity (CBD), Cartagena Protocol, International Union for Protection of New Plant Varieties (UPOV), and BIMSTEC.

Systems for Protecting IP IPR protection laws and systems – National IPR Policy; and IPR laws; procedures for filing IP protection; Systems of IP protection and management in agricultural universities and research institutions and also by stakeholders

Management of IPR Mechanisms of IPR Management – Institutional arrangement, IP Management processes – invention disclosure; IP portfolio management; Infringement management

Protection and Management of Biological Resources Introduction; National Biodiversity Act (2002); Protection of Plant Varieties and Farmers Rights Act (2001); Guidelines for registration and transfer of biological resources; Farmers rights; Mechanisms of documenting/ collecting, protecting and commercialising farmers varieties and other biological resources; National Biodiversity Authority, PPVFRA and other agencies involved in management of biological resources in India. Access to Genetic Resources and Sharing of Benefits

Unit 3: Traditional and Indigenous Knowledge, Grassroot and Farmers Innovations – Meaning, forms and importance; Systems of documentation, registration, protection and commercialisation. Documentation of traditional indigenous knowledge - Traditional Knowledge Digital Library (TKDL), Community Biodiversity Registers Social Sciences: Agricultural Extension Education 295 (CBRs), People's Biodiversity Registers (PBRs), Plant Biodiversity Register, and Honeybee Network.

Geographical Indications (GI) and Appellation of Origin Geographical indications and appellation of origin – meaning, origin; Geographical Indications of Goods (Registration and Protection) Act (1999); Documentation, registration and commercialisation of GI protected materials and processes.

Genetically Modified Organisms (GMO), Agriculture and Biosafety The Global Concerns on Use of Genetically Modified Organisms in Food and Agriculture; The Cartagena Protocol on Bio-safety; Regulation of GMO in India - Recombinant DNA Advisory Committee (RDAC), Institutional Bio-safety Committee (IBSC), Review Committee on Genetic Manipulation (RCGM), Genetic Engineering Approval Committee (GEAC), State Bio-safety Coordination Committee (SBCC) and District Level Committee (DLC). Laws and Acts for regulation of GMO - Guidelines for Research in Transgenic Plants, 1998; Seed Policy, 2002; Plant Quarantine Order, 2003; Regulation for Import of GM Products Under Foreign Trade Policy, 2006; National Environment Policy, 2006

Unit 4: Meaning; Importance; Approaches and methods of assessment and refinement of various technologies – stakeholder oriented approaches including participatory technology assessment and refinement; assessment and refinement of traditional and indigenous knowledge and grassroot innovations Technology Valuation Returns to investment; IP Valuation-Oxford context, IP Valuation methods - Cost approach; Income approach - Discounted Cash Flow, Risk-Adjusted Net Present Value, Net Present Value with Monte Carlo Simulation and Real Options Theory; Market approach - Industry Standards Method, Rating/Ranking Method, Rules of Thumb Approach and Auction Method; Hybrid approaches; Royalty rate method. Technology Commercialisation Strategies Meaning- approaches for technology commercialisation – technology scaling up, technology licensing, handholding, agripreneur development, technology business incubation. Scaling up of Technologies Meaning, types and stages of technology scaling up; mechanisms. Technology Licensing Meaning and types - Procedures of licensing, preparing licensing documents; Management of technology licensing process. Technology Takers and Entrepreneurship Meaning; types of technology takers; Technology Taking as a Strategy; Types of entrepreneurship – agripreneurs, startups, small businesses, Producer Organizations, Self Help Groups, Clusters and other forms of entrepreneurship. Policy support for Technology Commercialisation and Entrepreneurship Development Policy support for entrepreneurship development in India - National Policy on Skill Restructured and Revised Syllabi of Post-graduate Programmes Development and Entrepreneurship and other polices; Government of India Support for Innovation and Entrepreneurship – Startup India, Make in India, Digital India, Atal Innovation Mission and others; Entrepreneurship policy and schemes at different states of India; Organisations promoting entrepreneurship in India

Unit 5: Meaning, functions and types; stakeholder oriented incubation process – Livelihood incubation, village incubators. Technology Incubation in India System of technology incubation- incubation process; its effectiveness; Managing profit oriented and non-profit incubators; Schemes for promoting incubators in India.

Technology Promotion And Essential Skills For Technology Commercialisation. Technology Promotion Technology promotion – meaning, types, business meetings, scientist-industry/ entrepreneur meets, technology conclave, business plan competition, farmers fairs, technology shows. Dealing with Entrepreneurs, Agripreneurs and Other Stakeholders Business communication; Business Etiquette; business networking

Emerging Approaches in Technology Commercialisation and Incubation.

Technology Scouting and Innovations in technology incubation

Practicals

• Understanding the technology commercialisation process – Visit to Technology Commercialisation Unit of ICAR Institute/ Agricultural University • Understanding the IPR protection practices – Visit to Patent Attorney office • Hands-on experience in drafting IPR application – Patent/Copyright/ Trademark • Understanding protection of biological resources including plant varieties – Visit to PPVFRA Branch office/ ICAR Institute or Agricultural University involved in plant variety protection • Documenting Traditional and indigenous knowledge – Field experience in using various protocols of using traditional and indigenous knowledge • Protecting unique local goods through Geographical Indications – Hands on experiences in documenting and registering Geographical indications • Technology assessment/ validation of traditional and indigenous knowledge – QuIK and other methods • Hands on experience in technology valuation • Hands on experience in technology licensing process including drafting agreements • Understanding the Technology Business Incubation – Visit to Agri Business Incubator or Technology Business incubator • Hands on experience in planning and organising technology promotion events

• Hands on experience in various techniques in business communication and Business etiquette

Teaching Methods/ Activities

– Lecture
– Assignment (Reading/Writing)
– Student's Book/Publication Review
– Student presentation
– Group Work
– Student's interview of key policy makers
– Case Analysis
– Guest Lectures
– Review of policy documents
– Short attachments

Learning outcome

At the end of the course the students are expected to develop competencies in:

– Enabling stakeholders to protect and manage their IPR
– Managing IPR to maximise their value realisation through commercialisation, and
– Providing mentoring and handholding support to agripreneurs, rural entrepreneurs, start-ups, Farmer Organisations and other forms of entrepreneurs through incubation.

Suggested Reading

Bandopadhyay D. 2018. Securing Our Natural Wealth: A Policy Agenda for Sustainable Development in India and for Its Neighbouring Countries. Singapore; Springer.

Ghosh, S. and Joshi, A. 2017. Handbook for Non-Profit Incubator Managers. New Delhi: Deutsche Gesellschaftfür Internationale.

Gupta AK. 2016. Grassroots Innovation: Minds on the margin are not marginal minds. Gurgaon: Penguin Books. ICAR.2018.

ICAR Guidelines for Intellectual Property Management and Technology Transfer/ Commercialization (Revised in 2018). Indian Council of Agricultural Research, New Delhi.

Pandey N and Dharni K. 2014. Intellectual Property Rights. Delhi. PHI Learning Pvt. Ltd.

Sharma G and Kumar H. 2018. Intellectual property rights and informal sector innovations: Exploring grassroots innovations in India. The Journal of World Intellectual Property. 1- 17. DOI: https://doi.org/10.1111/jwip.12097.

Stevens AJ. 2016. Intellectual property valuation manual for academic institutions (Report No. CDIP/17/INF/4). Geneva: Committee on Development and Intellectual Property (CDIP).

WIPO and ITC. 2010. Exchanging Value – Negotiating Technology Licenses, A Training Manual. World Intellectual Property Organization (WIPO).

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PHDEXT 604	Educational Technology and Instructional Design	60	0	40	30	20	2	1	3

1. Legends: L - Lecture**; P –** Practical

**2. ***Teacher Assessment shall be based on following components: Quiz / Assignment / Project /Participation in Class.

Aim of the course

The aim is to develop knowledgeable, responsive and effective teachers committed to educating diverse group of learners in a dynamic extension landscape. This course will help the learners to appreciate the role of technology in learning and how it can be integrated into instructional design to create engaging learning experience in both classroom and online learning environment. The course also aims to prepare the students as competent professionals employable in the extension and RAS providers both as specialised researchers as well as designers.

The course is organized as follows:

No.	Blocks	Units
1.	Educational Technology	1. The Landscape of Educational Technology and Instructional Design. Theories of learning. 2. Technology Enabled Learning
2.	Instructional Design	3. Theories of Instructions, creating instructions 4. Instructional strategies, evaluating instructions 5. Trends in Instructional Design

Theory

Unit 1: The Landscape of Educational Technology and Instructional Design Understanding various terms - educational technology, instructional design, instructional systems design, curriculum design, pedagogy, andragogy; Brief overview of the origin and evolution of ET and ID as theory and practice; what is the relevance of ET and ID relevant in extension and rural advisory services? Extensional professionals as instructional designers and architects of the learning experience

Theories of Learning What is learning? Critical overview of Behaviorism, Cognitivism, Constructivism and Complex learning theories; instructional designers and learning theories; Types of learning or learning domains- Bloom's taxonomy of the cognitive domain, Krathwohl and Bloom's affective domain and Simpson's psychomotor domain

Unit 2: What is the role of technology in education? Digital media, new tools and technology; Open and distance Learning (ODL); Online Education - Synchronous and Asynchronous learning models; eLearning, Massive Open Online Courses - SWAYAM, Open Education Resources (OERs), Course CERA, EduEx, CoL, RLOs; digital education and its applications in higher agricultural education; Smart classrooms and Campuses, Web-based remote laboratory (WBRL); Integrating media and digital tools into ID; types and implications of disruptive technologies for higher education and extension; Augmented

learning; Adaptive learning; meaning, features and good practices in using open source Learning Management Systems (Moodle); Quality assurance and certification in e-learning.

Unit 3: Howard Gardner's Theory of Multiple Intelligences, David Kolb's Experiential Learning Cycle, Albert Bandura's Social Learning Theory, Rand Spiro's Cognitive Flexibility Theory and Its Application In eLearning, Wlodkowski's Motivational Framework for Culturally Responsive Adult Learning; ADDIE Model, Dick and Carey Model, SAM Model, Bloom's Taxonomy; integrating the theories of instruction into the practice of ID in extension and RAS ecosystem.

Creating Instruction Overview of planning, designing and implementing the curricula and learning experiences; Needs Analysis - meaning, approaches and steps; Task and content analysis - meaning, approaches, steps and techniques (topic analysis, procedural analysis, and the critical incident method); Learner analysis – meaning, importance and approaches, relevance of Maslow's Hierarchy of Needs and learning styles, Captive Audience vs. Willing Volunteers, Universal vs. user-centered design, Learner Analysis Procedures; Writing learning objectives: Meaning of Learning Goal and Learning Objectives; ABCDs of well-stated objectives; Setting goals, translating goals into objectives; Contextualising ADDIE process within the Extension learning environment

Unit 4: Instructional Strategies Organizing content and learning activities - scope and sequence of instruction; Posner's levels of organizing (Macro, Micro, Vertical, and Horizontal) and structures of organizing (content vs. media) instruction, Gagne's events of instruction, Edgar Dale's Cone of Experience; Methods of Delivery- classroom teaching, programmed instruction, synchronous and asynchronous modes of distance education; Changing role of a teacher in classroom and teaching competencies.

Evaluating Instruction Meaning of Assessment, Measurement and Evaluation; Developing learner evaluations and their reliability & validity; assessment techniques for measuring change in knowledge, skill and attitude of learners - Objective Test Items, Constructed-Response Tests, Direct Testing, Performance Ratings, Observations and Anecdotal Records, Rubrics, Portfolios, Surveys and Questionnaires, Self Reporting Inventories, Interviews; Conducting learner evaluation pre-, during and post-instruction; Formative and Summative Evaluation- meaning, approaches and steps; Evaluating Learner Achievement and the Instructional Design Process; Evaluating the success of instruction; Performance appraisal of teachers

Unit 5: Trends in Instructional Design Alternatives to ADDIE model - Rapid prototyping and constructivist ID, reflections on instructional design as science and as an art; Relating ID models and process in extension learning environment; political economy of higher education in developed and developing countries; University assessment and rating methods, returns from agricultural higher education; research in education and instructional design.

Practicals

• Exercises on preparation of the Analysis Report that includes the task/content Restructured and Revised Syllabi of Post-graduate Programmes Vol. 2 300 analysis and learner analysis and the Design Plan includes learning objectives and corresponding instructional strategies and assessment items • Prepare course outline and lesson plan with an appreciation for diverse learning styles based on temperament, gender, and cultural/ethnic differences and deliver a lecture for UG/PG students • Assessing learning styles through Barsch and Kolb inventories • Development and testing of survey instruments for evaluating learning outcomes/ competencies of students • Development and testing of survey instruments for performance appraisal / competency assessment of teachers. • Design an online e-learning module on a topic of interest as a capstone project - integrate and apply the knowledge and skills gained from the course for creating an effective learning experience for a target audience • Designing and developing a theme based knowledge portals • Exercises on designing an online course using open source LMS like moodle or EdX • Select and evaluate or design for social al media • Prepare a short research paper on recent theories and models of instructional design • Interview an instructional designer of your choice and prepare a synthesis report about what job roles he/she perform, What ID processes does he or she use, challenges faced • Develop a prototype for one of the lessons in your design plan using PowerPoint or a website builder such as Weebly to create the screens integrating multimedia content and various functionalities • Field visit to a virtual learning / augmented learning labs, e-learning labs, distance

learning centres, etc. • Hands-on practice with video-editing software, web conferencing and video conferencing solutions

Teaching Methods/ Activities

– Lecture – Assignment (Reading/Writing) – Student's Book/Publication Review – Student presentation – Group Work – Student's interview of key policy makers – Case Analysis – Guest Lectures – Review of policy documents – Short attachments

Learning outcome

After successful completion of this course, the students are expected to be able to: – Develop a critical understanding of concepts of learning and education within the context of agricultural development – Relate and apply learning theories and models to the development, design and evaluation of courses utilizing educational technology and instructional design – Hone their skills to take up research work in analysing and evaluating different learning systems, teaching-learning environments, competencies and learning outcomes – Find placement opportunities in the industry for job profiles such as e-learning specialist, training officer, curriculum developer, instructional designer, education consultant, etc.

Suggested Reading

Agarwal JC. 2007. Essentials of Educational Technology Innovations in Teaching – Learning. 2nd Ed. Vikas Publ. House. Allen M. 2013. Leaving ADDIE for SAM: An Agile Model for Developing the Best Learning Experiences https://www.alleninteractions.com/about Anglin GJ (Ed.), 1995. Instructional technology: Past, present, and future. Englewood, CO: Libraries Unlimited. Anonymous. 2000. Contents Pages of the Journal Educational Technology from January, 2OO0 to December, 2O15 Volume 40-Volume 55 http://publicationshare.com/pdfs/ET-Contents-Pages-2000-2015.PDF Bandura A. 1977. Social learning theory. Englewood's Cliffs, NJ: Prentice-Hall Bandura A. 2001. Social cognitive theory: An agentic perspective. Annual Review of Psychology, 52, 1–26 Britain S. 2004. A Review of Learning Design: Concept, Specifications and Tools. A report for the JISC E-learning Pedagogy Programme, May 2004. Brown AH and Timothy DG. 2016. The essentials of instructional design: connecting fundamental principles with process and practice, Third edition, Routledge https://ikhsanaira.files.wordpress.com/2016/05/the-essential-of-instructional-design.pdf Challa J and Reddy NM. 2008. Education Technology for Agricultural Sciences, NAARM, Rajendra Nagar, Hyderabad, Telangana, India. David HJ. 2003. Learning to Solve Problems: An Instructional Design Guide. Duffy TM and Cunningham DJ. 1996. Constructivism: Implications for the design and delivery of instruction. In Jonassen D (Ed.), Handbook of Research for Educational Communications and Technology (pp. 170-198). New York: Simon & Schuster Macmillan Edward T. 2013. Power Point Is Evil. https://www.wired.com/2003/09/ppt2/ Ellen R. 2004. Instructional Design and Curriculum Development: Deconstructing the Difference, Educational Technology, Vol. 44, No. 2 (March-April 2004), pp. 3-12. https://www.jstor.org/stable/44428883 Gardner H. 2008. Multiple intelligences: New horizons in theory and practice. New York, NY: Basic Books

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		Theory			Practical		Credits		
		END SEM University Exam	Mid term exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	P	Total
PHDEXT 605	Risk Management and Climate Change Adaptation	60	0	40	30	20	2	1	3

1. Legends: L - Lecture**; P –** Practical

**2. ***Teacher Assessment shall be based on following components: Quiz / Assignment / Project /Participation in Class.

Aim of the course

The course is designed to provide both basic and applied knowledge on the subjects of risks management and climate change adaptation with reference to Indian agriculture. This course will approach the subjects from a multidisciplinary perspective - technical, socio-economic, political, financial, and regulatory. It aims to equip students to identify, evaluate and evolve ways to address (mitigate and manage) risks and climate change.

The course is organized as follows:

No.	Blocks	Units
1	Risk Management in Agriculture	1. Understanding Risk and Distress
		2. Managing Risk and Distress in Agriculture
		3. Extension Professionals and Risk management
2	Adapting to Climate Change	4. Introduction to Climate Change Science
		5.Introduction to Climate Change Adaptation and Mitigation
		Climate Smart Agriculture and Extension Advisory Services

Theory

Unit 1: Understanding Risk and Distress- Introduction to risk, risk management, uncertainty, sensitivity and distress, General risk theory, Risk analysis methods, Risk perception and decision making, Indicators of risk and distress in agriculture – identification, selection and assessment, Understanding the agrarian distress in Indian agriculture, Sources of distress in Indian farming -changing farm size, land use, cropping patterns, pricing policy, markets and terms of trade, Typology of crisis in agriculture; Droughts, floods and Indian agriculture, Distress and farmer suicides - causes and socio-economic consequences.

Unit 2: Managing Risk and Distress- Ways to reducing/managing risk and distress in Indian agriculture; crop and life insurance; Developing support systems; Planning, implementation and evaluation of risk/distress management programs; Institutional frameworks for risk and disaster management - NDMA & SDMAs; Developing District Agriculture Contingency Plans; Risk management by diversification; Good practices and lessons from other countries; Responses of government, non-government and extension system to agrarian crisis; National Farmers Policy.

Unit 3: Understanding social-psychological and behavioural dimensions of farmers under risk/distress; Risk perception and communication; Helping farmers manage farm level risks - mobilising resources, linking with markets, strengthening capacities; Working with village level risk management committees; Operational skills for preparing contingency and disaster management plans; Institutional and extension

innovations in managing risk and distress; Policy and technological preferences for dealing with drought and flood.

Unit 4: Basic concepts of and terms in climate change science; impacts of climate change; anthropogenic drivers of climate change, Climate change and Indian agriculture; climate adaptation vs. disaster risk reduction; anticipated costs of adaptation; climate change and poor; Overview of UNFCCC framework and institutions, Kyoto Protocol and beyond; India's National Action Plan on Climate Change and National Mission on Strategic Knowledge on Climate Change; National Coastal Mission, Institutional arrangements for managing climate change agenda

Unit 5: Introduction to Climate Change Adaptation, Conducting a vulnerability assessment (CVI and SEVI frameworks), Identifying and selecting adaptation options; Global, national and state level initiatives and plans to support climate change adaptation, private sector and civil society initiatives and activities; Mainstreaming climate change adaptation into development planning, Financing climate adaptation and budgetary allocations for programmes, Gender and climate change adaptation, Agricultural development programmes and strategies towards climate change adaptation and mitigation, Community based and Ecosystem based adaptation strategies, preparing evidence based intervention plans for vulnerability reduction at micro and macro-levels.

Climate smart agriculture; Developing climate smart and climate resilient villages; Stakeholders and determinants involved in climate smart agriculture; Climate smart agriculture and EAS; Innovative extension approaches used in CSA; Climate information services, Farmers perceptions about climate change; Farm and household level manifestations and adaptation strategies; Barriers and limits to adaptation; Farmers feedback on performance of extension methods; Skills, competencies and tools required for extension professionals at different levels and development departments in up scaling CSA.

Practicals

• Hands-on practice in using risk assessment/analysis tools • Case studies on risk / distress assessment in agriculture -Indian and global • Lessons / Experiences from NICRA Project in agriculture and allied sectors • Developing criteria, indicators and indices for assessment of risk, vulnerability and resilience • Hands on practice on use of vulnerability and risk assessment tools and techniques • Case studies on success stories of climate change adaptation and community based initiatives • Developing district and village level intervention plans for climate change adaptation • Field Visits to State Disaster Management Authority • Case studies on climate smart agriculture / villages from India and world • Case studies on impact assessment of crop insurance programs, disaster management programs • Capstone project on documenting ITKs and local practices related to reducing risk / climate resilience agriculture

Teaching Methods/ Activities

– Lecture – Assignment (Reading/Writing) – Student's Book/Publication Review – Student presentation – Group Work – Student's interview of key policy makers – Case Analysis – Guest Lectures – Review of policy documents – Short attachments

Learning outcome

After successful completion of this course, the students are expected to be able to: – Appreciate the scientific foundation of risk management and climate change science and relate the key learning to the job of an extension professional – Utilise methods and tools for risk and climate related vulnerability assessments and adaptation strategies in the context of Indian agriculture / farming scenario – Utilise material in scientific publications relevant for risk management and climate change adaptation and critically reflect on their benefits and limitations for decision making

Suggested Reading

Ahamad, J and Alam D. 2012. Impact of Climate Change on Agriculture and Food Security in India. Int. Jr. of Agril., Env. and Biotech. Vol. 4, No. 2: June 2011: 129-137

Baquet A, Hambleton R, and Jose D.1997. Introduction to Risk Management. Understanding Agriculture Risk: Production, Marketing, Financial, Legal, Human Resources. Risk Management Agency,

USDA. December 1997 http://extensionrme.org/pubs/introductiontoriskmanagement.pdf Becker P.2014. Sustainability Science: Managing Risk and Resilience for Sustainable Development. Amsterdam and Oxford: Elsevier.

Burton ES and Riikka R. 2010. Strengthening Agricultural Extension and Advisory Systems. The International Bank for Reconstruction and Development/The World Bank. http://siteresources.worldbank.org/INTARD/Resources/Stren_combined_web.pdf

Busani, B.2020. Extension services in a changing climate http://www.g-fras.org/en/events/gfras-events/annual-meeting-philippines-2012/blog/170- climate-change.html Coppola DP. 2011. Introduction to International Disaster Management. (2. ed.). Amsterdam: Elsevier, 2011. Ch 2: Hazards, pp. 37-137; Ch 3: Risk and Vulnerability, pp. 139-207; Ch 4: Mitigation, pp. 209-250; Ch 5: Preparedness, pp. 251-303. Davis K and Sulaiman RV. 2013. Extension Services for Effective Agricultural Risk Management. CRISP . Washington, DC: FARMD.

Deepika B, Saravanan R, and Suchiradipta B. 2018. Climate Smart Agriculture towards Triple Win: Adaptation, Mitigation and Food Security. Research Report Brief 5,
CAEIRA, MANAGE, Hyderabad, India. http://www.manage.gov.in/publications/reportbrief/MANAGE_Research%20Brief__ 5Deepa.pdf

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PHDEXT 607	Facilitation for People Centric Development	60	0	40	30	20	1	1	2

1. Legends: L - Lecture**; P –** Practical

**2. ***Teacher Assessment shall be based on following components: Quiz / Assignment / Project /Participation in Class.

Aim of the course

• To orient students on the importance facilitation • To inspires students to understand facilitation tools to influence change at the individual, group and organisational levels • To develop capacities in multi-stakeholder engagement, facilitation and networking

The course is organized as follows:

No.	Blocks	Units
1.	Facilitation for development in the AIS	1. Facilitation for development in the AIS Principles, Attributes and Skills for Facilitation 2. Realise Potential- Self-Discovery, Group Dynamics and Organizational Change Process
2.	Facilitating Operational Level Multi-stakeholder Engagements	3. Multi-Stakeholder Interactions Innovation and Policy engagement Platforms 4. Linkages, Partnerships, Alliances and Networking 5. Facilitating Capacity Development

Theory

Unit 1 Facilitation for development in the AIS; Understanding facilitation for development; Importance of facilitation as a core function of extension within the Agricultural Innovation Systems (AIS)

Principles, Attributes and Skills for Facilitation for Development Basic principles of facilitation for development; Desired attributes of facilitator for development- Cognitive attributes, Emotional attributes (Emotional intelligence), Social, behavioural and attitudinal attributes; Technical skills of a facilitator for development- Design processes, Facilitation techniques and tools, the art of questioning and probing, Process observation and documentation, Visualisation

Unit 2: Self-discovery to realise our potentials, Tools for self-discovery, formulating a personal vision, Taking responsibility for your own development

Group Dynamics and Working Together Understanding the dynamics of human interaction, Group dynamics and power relations, Managing relationships, Shared vision and collective action, Tools for team building

Organizational change process, Organizational learning to adapt to changing environments, Enhancing performance of organizations, Leadership development, Tools for organizational change

Unit 3: Defining stakeholders, Development of collective and shared goals, Building trust and accountability, Tools for stakeholder identification and visioning. Innovation and Policy engagement Platforms Visualising innovation platforms (IPs), Why are IPs important?, Different models of IPs for multi-stakeholder engagement, policy engagement platforms, Generating issues and evidence for policy action, Advocacy for responsive policy processes

Unit 4: Linkages, Partnerships, Alliances and Networking Brokering linkages and strategic partnerships, Identification of critical links, Knowledge brokering, Creating linkages with markets, Learning alliances and networking, Coordination of pluralistic service provision within the AIS, The concept of action learning and reflective practitioners, Networking

Unit 5: Facilitating Capacity Development-Facilitate participation and learning in development programs and projects. Virtual platforms- skills for strengthening dialogue, collaboration, shared commitment amongst diverse actors and stakeholders

Practicals

• Practicing facilitation techniques, • Self discovery exercises, • Working together and interaction (task based), • Arrangement for multi-stakeholder interactions, • Understanding organisational change process tools and techniques, • Case analysis on organisational change process, • Participating with innovation platforms, • Policy engagement platforms, • Stakeholder analysis mapping, • Exercise on networking skills, • Facilitating capacity building programmes • Facilitating virtual platforms • Filed visit to multi-stakeholder partnership projects

Teaching Methods/ Activities

– Lecture – Assignment (Reading/Writing) – Student's Book/Facilitation Manual/Publication Review – Student presentation – Group Work – Student's interview with facilitators – Case Analysis – Guest Lectures – Review of facilitation methodologies – Short internships

Learning outcome

After successful completion of this course, the students are expected to be able to: – Appreciate the importance of facilitation skills and tools – Understand facilitation and networking techniques – Critically evaluate strategic partnerships and linkages – How to manage group dynamics and engage multi-stakeholders and virtual platforms

Suggested Reading

Anonymous. Seeds for Change. Facilitation Tools for Meetings and Workshops. Available https:/ /seedsforchange.org.uk/tools.pdf

Clarke S, Blackman R and Carter I. 2004. Facilitation skills workbook -Training material for people facilitating small group discussions and activities using PILLARS Guides. Tearfund, England. https://www.tearfund.org/~/media/files/tilz/fac_skills_english/facilitation__e.pdf

Davis S. 2014. Using the Socratic Method as a Learning Facilitator. https://facilitatoru.com/training/using-the-socratic-method-as-a-learning-facilitator/ Hanson L. and Hanson C. 2001. Transforming participatory facilitation: Reflections from practice. http://pubs.iied.org/pdfs/G01950.pdf

Jost C, Alvarez S and Schuetz T. 2014. CCAFS Theory of Change Facilitation Guide. CGIAR Research Program on Climate Change, Agriculture and Food Security. https://cgspace.cgiar.org/bitstream/handle/10568/41674/CCAFS%20TOC%20facilitation% 202014% 20FINAL.pdf Kennon N., Howden P. and Hartley M. 2002. Who really matters? A stakeholder analysis tool. Extension Farming Systems Journal: 5 (2). https://www.csu.edu.au/__data/assets/pdf_file/0018/109602/EFS_Journal_vol_5_no_2_02_ Kennon_et_al.pdf Koutsouris A. 2012. Exploring the emerging facilitation and brokerage roles for agricultural extension education. AUA Working Paper Series No. 2012-4. Agricultural University of Athens. Department of Agricultural Economics & Rural Development. http://aoatools.aua.gr/RePEc/aua/wpaper/files/2012-4_koutsouris.pdf

Krick T, Forstater M, Monaghan P, Sillanpaa M. 2005. The Stakeholder Engagement Manual: Volume 2, the Practitioner's Handbook on Stakeholder Engagement. Accountability, United Nations Environment Programme, Stakeholder Research Associates Canada Inc.

Linden J. 2015. Innovation in Layer Housing: From Drawing Board to Reality. http://www.thepoultrysite.com/articles/3494/innovation-in-layer-housing-from-drawingboard-to-reality/

Lindy norris. How to Develop Your Personal Vision Statement: A Step-by-Step Guide to Charting Your Future with Purpose and Passion. http://static1.squarespace.com/static/5765deb1be659449f97fcbf5/t/5770b309579fb31316 4a7a37/1467003657818/LINDYNORRIS.COM+-+How+to+Develop+a+Personal+Vision+ Statement.pdf

Lundy, M, Gottret, M.V. and Ashby, J. 2005. Learning alliances: An approach for building multi-stakeholder innovation systems. http://documents.worldbank.org/curated/en/564521467995077219/pdf/103509-BRIPUBLIC-ADD-series-ILAC-brief.pdf

Makini FW, Kamau GM, Makelo MN, Adekunle W, Mburathi GK, Misiko M, Pali M, and Dixon J.2015. Operational Field Guide for Developing and Managing Local Agricultural Innovation Platforms. Australian Centre for International Agricultural Research. https://www.aciar.gov.au/file/103711/download?token=EPYmwxnE Mind Tools. 2005. The Role of a Facilitator-Guiding an Event through to a Successful Conclusion. https://www.mindtools.com/pages/article/RoleofAFacilitator.htm

Mittal N, Sulaiman RV and Prasad RM. 2016. Assessing Capacity Needs of Extension and Advisory Services A Guide for Facilitators. Agricultural Extension in South Asia. http://www.aesanetwork.org/assessing-capacity-needs-of-extension-and-advisory-servicesa-guide-for-facilitators/

Mulema, A.A. 2012. Organisation of innovation platforms for Agricultural Research and Development in the Great Lakes Region of Africa. Graduate Theses and Dissertations. Paper 12631. https://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=3638& context=etd

Nederlof S, Wongtschowski M and Van der Lee (eds.) 2011. Putting Heads Together- Agricultural Innovation Platform in Practice. KIT Publishers.

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Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Agriculture
Ph.D. (Ag.) Agricultural Extension Education

Course Code	Course Name	TEACHING & EVALUATION SCHEME							
		Theory			Practical		Credits		
		END SEM University Exam	Mid term exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	P	Total
PHDEXT MCA 613	Multi media and Applications	60	0	40	30	20	1	1	2

1. Legends: L - Lecture**; P –** Practical

**2. ***Teacher Assessment shall be based on following components: Quiz / Assignment / Project /Participation in Class.

Aim of the course

This course introduces students to current practices, technologies, methodologies, and authoring systems in the design and implementation of systems that incorporate text, audio, images, animation and full-motion video

The course is organized as follows:

No.	Blocks	Units
1.	Introduction to Multimedia Technology	1. Multimedia Technology and MM devices 2. Digital representation of sound and transmission
2.	DVD technology, M/M systems services	3. DVD technology 4. M/M systems services 5. Data models for M/M

Theory

Unit 1 Introduction to Multimedia Technology - Computers, communications and entertainment; Framework for multimedia systems.

M/M devices, presentation devices and the user interface, M/M presentation and authoring

Unit 2: Digital representation of sound and transmission; Brief survey of speech recognition and generation; Digital video and image compression; JPEG image compression standard; MPEG motion video compression

Unit 3: DVD technology, Time based media representation and delivery; M/M software environment; Limitation of workstation operating systems

Unit 4: M/M systems services; OS support for continuous media applications; Media stream protocol; M/M file system and information representation.

Unit 5: Data models for M/M and Hypermedia information.

Practicals

Script Writing and Story Boards;

• Hot Spots and Buttons, Layouts and designing of visuals, Basics of colors; • Working with text, presentations, charts and putting animations; • Creating interactive presentations; • Adobe Photoshop – Introduction, Working with images, Image editing and cleaning; • Macromedia Flash - Introduction, Creating shapes, Inserting text, Concepts of colors, layers, frames and timelines; • Creating Animation - Creating scenes, creating movie, testing and playing movie; • Adobe Acrobat – Overview, Creating Adobe PDF e-Books; • Macro Media Director Basics

Teaching Methods/ Activities

– Lecture – Assignment (Reading/Writing) – Student's Book/Publication Review – Student presentation – Group Work – Student's interview of key policy makers – Case Analysis – Guest Lectures – Review of policy documents – Short attachments

Learning outcome

At the end of the course the students are expected to develop competencies in:
Multimedia Technology and its applications

Suggested Reading

• Furhet B. 1998. Multimedia Technologies and Applications for the 21st Century. Kluwer. • Gibbs S.J. and Tsischritziz D.C. 1995. Multimedia Programming - Objects, Environment & Framework. Addison-Wesley. • Kerman P. 2002. Teach Yourself Macromedia Flash MX. Sams Publ. Luther AC. 1994. Authoring Interactive Multimedia. Academic Press. Parekh R. 2006. Principles of Multimedia. TataMcGraw-Hill. • Vaughan T. 2017. Multimedia-Making it Work.McGraw-Hill.

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