Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	SOIL 508	**Title of the Course**	Soil, Water and Air Pollution	**L**	**T**	**P**	**C**
Year	II	**Semester**	IV	2	0	2	
Course Objectives	• To make the student identify the cause of soil, water and air pollution • To identify the problems associated with use of chemicals for crop production • To manage the soil, water and air pollution						

Course Outcomes	
CO1	The students will have learned about the cause of soil, water and air pollution
CO2	Student will have the knowledge of different sources of soil, water and air pollutants
CO3	Student will be able to impart knowledge about the harmful effects of different agrochemicals used on field on soil and human health
CO4	Students can know the various sources of water pollution and sewage and industrial effluents and greenhouse gases
CO5	By the end of course students will have the idea about the remediation and amelioration of contaminated soil, water and air

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	**Unit-1**	Soil, water and air pollution problems associated with agriculture, nature and extent.	4	CO1
2	**Unit-II**	Nature and sources of pollutants – agricultural, industrial, urban wastes, fertilizers and pesticides, acid rains, oil spills etc.; air, water and soil pollutants- their CPC standards and effect on plants, animals and human beings.	8	CO1, CO2, CO3
3	**Unit-III**	Sewage and industrial effluents–their composition and effect on soil properties/ health, and plant growth and human beings; soil as sink for waste disposal.	4	CO3, CO4
4	**Unit-IV**	Pesticides–their classification, behaviour in soil and effect on soil microorganisms.	3	CO3
5	**Unit-V**	Toxic elements–their sources, behaviour in soils, effect on nutrients availability, effect on plant and human health	4	CO3, CO4
6	**Unit-VI**	Pollution of water resources due to leaching of nutrients and pesticides from soil; emission of greenhouse gases–carbon dioxide, methane and nitrous oxide	5	CO4, CO5
7	**Unit-VII**	Risk assessment of polluted soil, Remediation/ amelioration of contaminated soil and water; remote sensing applications in monitoring and management of soil and water pollution.	4	CO5
Practicals:				
Sampling of sewage waters, sewage sludge, solid/ liquid industrial wastes, polluted soils and plants and their processing, Estimation of dissolved and suspended solids, chemical oxygen demand (COD), biological demand (BOD), measurement of coliform (MPN), nitrate and ammoniacal nitrogen and phosphorus, heavy metal content in effluents, Heavy metals in contaminated soils and plants, Management of contaminants in soil and plants to safe guard food safety, Air sampling and determination of particulate matter and oxides of sulphur, NO_2 and O_2 conc. Visit to various industrial sites to study the impact of pollutants on soil and plants.			16	CO1, CO2, CO3, CO4, CO5

Reference Books:

- Lal R, Kimble J, Levine E and Stewart BA. 1995. Soil Management and Greenhouse Effect. CRC Press.
- Middlebrooks EJ. 1979. Industrial Pollution Control. Vol. I. Agro-Industries. John Wiley Interscience.
- Ross SM. Toxic Metals in Soil Plant Systems. John Wiley & Sons.
- Vesilund PA and Pierce 1983. Environmental Pollution and Control. Ann Arbor Science Publ..

e-Learning Source:

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	2	2	2	1	1	1	2	2	3			3	3	3	2		
CO2	3	1	3	2	1	1	1	2	2	3			3	3	3	3		
CO3	3	1	3	3	1	1	1	2	2	2			3	1	3	2		
CO4	3	1	3	2	1	1	1	1	2	2			3	2	2	1		
CO5	3	2	3	3	1	1	1	2	2	3			3	2	2	2		

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	AGRON 507	**Title of the Course**	Agronomy of Oilseed, Fibre and Sugar Crops	**L**	**T**	**P**	**C**
Year	II	**Semester**	IV	2	0	1	
Course Objectives	• To educate students about crop husbandry of oilseed, fiber and sugar crops.						

Course Outcomes	
CO1	The students will be able answer about on the production of rabi oil seeds, sugar and fibre crops
CO2	The students will be able to have the basic knowledge on production of oil seeds.
CO3	The students will be able to have the basic knowledge on production of sugars
CO4	The students will be able to have the basic knowledge on production of fibre crops

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	**Unit-1**	Origin and history, area and production, classification, improved varieties, adaptability, climate, soil, water and cultural requirements, nutrition, quality component, handling and processing of the produce for maximum production of: Rabi oilseeds – Rapeseed and mustard, Linseed and Niger	5	CO1
2	**Unit-II**	Origin and history, area and production, classification, improved varieties, adaptability, climate, soil, water and cultural requirements, nutrition, quality component, handling and processing of the produce for maximum production of: Kharif oilseeds - Groundnut, Sesame, Castor, Sunflower, Soybean and Safflower	7	CO1, CO2
3	**Unit-III**	Origin and history, area and production, classification, improved varieties, adaptability, climate, soil, water and cultural requirements, nutrition, quality component, handling and processing of the produce for maximum production of: Fiber crops - Cotton, Jute, Ramie and Mesta	5	CO3, CO4
4	**Unit-IV**	Origin and history, area and production, classification, improved varieties, adaptability, climate, soil, water and cultural requirements, nutrition, quality component, handling and processing of the produce for maximum production of: Sugar crops – Sugar-beet and Sugarcane	5	CO3, CO4
Practicals:				
Planning and layout of field experiments, Cutting of sugarcane setts, its treatment and methods of sowing, tying and propping of sugarcane, Determination of cane maturity and calculation on purity percentage, recovery percentage and sucrose content in cane juice phenological studies at different growth stages of crop, Intercultural operations in different crops, • Cotton seed treatment, Working out growth indices (CGR, RGR, NAR, LAI, LAD, LAR, LWR, SLA, SLW etc), Assessment of land use and yield advantage (Rotational intensity, Cropping intensity, Diversity Index, Sustainable Yield Index Crop Equivalent Yield, Land Equivalent ration, Aggressiveness, Relative Crowding Coefficient, Competition Ratio and ATER etc), Judging of physiological maturity in different crops and working out harvest index, Working out cost of cultivation of different crops, Estimation of crop yield on the basis of yield attributes, Formulation of cropping schemes for various farm sizes and calculation of cropping and rotational intensities, Determination of oil content in oilseeds and computation of oil yield, Estimation of quality of fibre of different fibre crops, Study of seed production techniques in various crops, Visit of field experiments on cultural, fertilizer, weed control and water management aspects, Visit to nearby villages for identification of constraints in crop production		16	CO1, CO2, CO3, CO

Reference Books:

- Das NR. 2007. Introduction to Crops of India. Scientific Publ.
- Das PC. 1997. Oilseed Crops of India. Kalyani.
- Lakshmikantam N. 1983. Technology in Sugarcane Growing. 2nd Ed. Oxford & IBH.
- Prasad Rajendra. 2002. Text Book of Field Crop Production. ICAR.

e-Learning Source:

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	2			2		1	1	3	3	2	2	1			
CO2	3	3	1	2		3	2				3	2	2	2	2			
CO3	3	3	1			1	2				3	3	2	2	2			
CO4	3	3	2	3		2	2				3	3	2	2	2			
CO5	3	3	2	3		3	2	1			3	3	2	2	1			

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2018-19							
Course Code	PGS501	**Title of the Course**	Library and Information Services	**L**	**T**	**P**	**C**
Year	II	**Semester**	III	0	0	2	
Course Objectives	• To study about the role of library in education, research and technology • To obtain idea of Intricacies of abstracting and indexing services and to enlighten the students about the computerized library services • To give the knowledge of e resources and search engines						

Course Outcomes	
CO1	The students will gain the knowledge about the library importance in different sites
CO2	They gain knowledge of Intricacies of abstracting and indexing services
CO3	They know about the computerized library services
CO4	To provide knowledge of e resources
CO5	To give basic information about search engines

Practicals:		
	Contact Hrs.	**Mapped CO**
Introduction to library and its services; Role of libraries in education, research and technology transfer; Classification systems and organization of library; Sources of information- Primary Sources, Secondary Sources and Tertiary Sources; Intricacies of abstracting and indexing services (Science Citation Index, Biological Abstracts, Chemical Abstracts, CABI Abstracts, etc.); Tracing information from reference sources; Literature survey; Citation techniques/Preparation of bibliography; Use of CD-ROM Databases, Online Public Access Catalogue and other computerized library services; Use of Internet including search engines and its resources; e-resources access methods.	28	CO1, CO2, CO3, CO4, CO5

Reference Books:

- Singh G. Information Sources, Services and Systems, 2013 Edition. Prentice Hall India Learning Private Limited
- Library Science, 2018 Edition. Ramesh Publishing House
- Subhankar Biswas, Durga Sankar Rath. Cataloguing in the New Era: Gazing through the Bodleian Catalogues to RDA, 2017 Edition. Ess Ess Publications

e-Learning Source:

https://www.youtube.com/watch?v=jQlGmtY3sUw (Role of libraries in education, research and technology transfer)

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	1	1	1	3	3	3	2	3			1	1	1	1		
CO2	3	3	1	3	3	3	1	3	2	3			1	2	1	3		
CO3	3	2	1	3	3	2	1	3	2	1			1	1	1	1		
CO4	3	2	1	3	3	3	1	3	2	2			2	1	2	1		
CO5	3	1	1	3	3	3	1	3	2	2			1	1	1	1		

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2024-25							
Course Code	PPP-2	**Title of the Course**	Professional Skills, Personality Development, Public Speaking Program	**L**	**T**	**P**	**C**
Year	II	**Semester**	III	2		0	
Course Objectives	1. To improve verbal and non-verbal communication, including writing and presentation skills. 2. To develop teamwork, collaboration, and conflict resolution skills. 3. To increase self-awareness and understanding of personal strengths and weaknesses. 4. To develop skills to engage and connect with the audience. 5. To utilize effective body language and gestures during presentations.						

Course Outcomes	
CO1	Students will be able to Build professional networks and improve networking skills.
CO2	Students will be able to demonstrate better teamwork and collaboration skills.
CO3	Students will be able to show improved resilience and adaptability to change and challenges.
CO4	Students will be able engage and connect with their audience more effectively.
CO5	Student will be skilled at giving and receiving constructive feedback to continually improve their public speaking skills.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**Unit 1**	Introduction to Communication: Need for effective communication Listening Skills: Listening as an active skill; Types of Listeners; Listening for general content; Listening to fill up information; Intensive Listening; Listening for specific information; Developing effective listening skills; Barriers to effective listening skills. Reading Skills: Previewing techniques; Skimming; Scanning; Understanding the gist of an argument; Identifying the topic sentence; Inferring lexical and contextual meaning; Recognizing coherence and sequencing of sentences; Improving comprehension skills. Aptitude: Coding Decoding, Alphabet, Blood Relationship Test, Direction Sense Test, Series Completion Test.	8	CO1
2	**Unit 2**	Soft Skills: Writing Skills, Sentence formation; Use of appropriate diction; Paragraph and Essay Writing; Letter Writing: Formal, informal and demi-official letters; business letters. Aptitude: Calendar (Standard Table, Forward Stepping Table, Backward Stepping Table), Clock (Problem on Angle, Time Variation and Incorrect clock)	7	CO2
3	**Unit 3**	Soft Skills: Non-verbal Communication and Body Language: Forms of non-verbal communication; Interpreting body language cues; Kinesics; Proxemics; Effective use of body language during Interview; Aptitude: Cube & cuboid (Problems to identify small cubes with 0,1,2 & 3 face colored), Dice	7	CO3
4	**Unit 4**	Interview Skills: Types of Interviews; Ensuring success in job interviews; Appropriate use of non-verbal communication. Common Interview Questions, Mock Interview sessions and feedback; Aptitude: Venn Diagram, Syllogism and Set theory	8	CO4, CO5

Reference Books:

- How to Win Friends and Influence People - Author: Dale Carnegie
- How to Talk to Anyone: 92 Little Tricks for Big Success in Relationships - by Leil Lowndes (Author)
- The Art of Happiness - by The Dalai Lama (Author), Howard C. Cutler (Author), Dalai Lama (Author), Howard Cutler (Author)
- Personality Development Handbook - D. P. Sabharwal (Author) (2015).
- Memory: How to Develop, Train, And Use It - by William Walker Atkinson (Author)

e-Learning Source:

https://www.sirc-icai.org/images/cabf/Soft%20Skills%20&%20Personality%20Development.pdf

https://bookboon.com/en/personal-development-ebooks

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																		
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
CO1	2	2	3	2	2	2	2	2	2	1			3	2	2	1			
CO2	2	2	3	2	3	3	3	3	1	3			3	3	2	2			
CO3	3	2	3	3	3	3	3	2	2	3			3	3	2	1			
CO4	2	1	1	3	3	2	1	1	1	3			2	2	1	2			
CO5	3	3	3	3	2	3	3	3	2	1			3	2	1	1			

1. Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**