Government of Pakistan

National Vocational and Technical Training Commission

Prime Minister's Hunarmand Pakistan Program

"Skills for All"

Course Contents / Lesson Plan

Course Title: Remote Sensing Applications in Agriculture

Duration: 3 Months

Revised Edition

Trainer Name	
Course Title	**Remote Sensing Applications in Agriculture**
Objectives and Expectations	This course on remote sensing applications in agriculture aims to provide participants with a comprehensive understanding of the principles underlying remote sensing technology in the context of agricultural practices. Throughout the program, emphasis will be placed on developing practical skills, encompassing tasks such as crop monitoring, disease identification, and efficient resource management through the application of remote sensing tools. The overarching objective is to empower participants with the knowledge and capabilities required to make informed decisions in agriculture, utilizing remote sensing data to enhance both productivity and sustainability in the agricultural sector. **Objectives of the Course:** **1. Understanding Remote Sensing Basics:** To gain foundational knowledge of remote sensing principles, techniques, and technologies. To comprehend the electromagnetic spectrum and its relevance to agricultural remote sensing. **2. Sensor Technologies and Platforms:** To explore various remote sensing platforms (satellites, drones, and aircraft) and sensors used in agricultural applications. To understand the advantages and limitations of different sensors and platforms. **3. Image Acquisition and Pre-processing:** To learn techniques for acquiring and pre-processing remote sensing data for agricultural purposes. To gain proficiency in data calibration, normalization, and correction. **4. Crop Classification and Mapping:** To develop skills in classifying and mapping different crops using remote sensing data. To understand the process of feature extraction and image classification algorithms. **5. Vegetation Monitoring and Health Assessment:** To explore methods for monitoring vegetation health using spectral indices. To learn to identify stress factors affecting crops through remote sensing. **6. Precision Agriculture Techniques:** To integrate remote sensing data with precision agriculture technologies. To understand how remote sensing contributes to precision farming practices. **7. Data Interpretation and Analysis:** To develop the ability to interpret and analyze remote sensing data in the context of agricultural applications. To explore statistical and GIS-based methods for data analysis. **Expectations of the Course:** In this course on remote sensing applications in agriculture, participants can expect to acquire a comprehensive understanding of the fundamental principles of remote sensing, including the electromagnetic spectrum, satellite imagery, and data acquisition methods. The course will cover various remote sensing platforms and sensors, providing insights into their advantages and limitations. Participants will learn image interpretation and analysis techniques, gaining practical skills in processing and interpreting satellite and aerial imagery. Special emphasis will be placed on the application of remote sensing in crop monitoring, yield estimation, and the identification of crop health and stress factors. Integration with GIS for spatial analysis, mapping, and modeling will also be explored. The course will include real-world case studies to illustrate successful applications in agriculture, and participants will engage in hands-on practical training, working with actual datasets and relevant software tools. Networking opportunities and collaboration with peers will enhance the learning experience, and the course will conclude with assessments and a certification to validate the acquired skills in utilizing remote sensing for agricultural management and decision-making.

Entry-level of trainees	Intermediate
Learning Outcomes of the course	By the end of this course, students will be able to: • Develop a solid understanding of remote sensing principles, encompassing the electromagnetic spectrum and the basics of satellite imagery. • Gain insights into various remote sensing platforms (satellites, drones, etc.) and sensors used in agricultural applications. Understand the strengths and limitations of each. • Acquire practical skills in interpreting satellite and aerial imagery. Learn image processing techniques and utilize software tools for analysis. • Explore the application of remote sensing in crop monitoring, including techniques for yield estimation and detection of crop health and stress factors. • Learn how to integrate remote sensing data with Geographic Information System (GIS) tools, enabling spatial analysis and mapping for effective agricultural planning. • Engage in hands-on exercises, working with real-world remote sensing datasets and relevant software tools to solve agricultural challenges.
Course Execution Plan	The total duration of the course: **3 months (12 Weeks)** Class hours: **4 hours per day** Theory: **20%** Practical: **80%** Weekly hours: **20 hours per week** Total contact hours: 24**0 hours**
Companies offering jobs in the respective trade	**1- Ministry of Forest and Range Management, Pakistan** **2- Ministry of Climate Change, Pakistan** **3- National Disaster Management Authority, Pakistan** **4- NGOs** **5- Private Firms**
Job Opportunities	• **Freelancer** • **Precision Agriculture Technician** • **AgTech Solutions Consultant** • **Research Associate (Agricultural Remote Sensing)** • **Farm Manager**
No of Students	25
Learning Place	Classroom / Lab/ Field
Instructional Resources	• Handbook of Research on AI-Equipped IoT Applications in High-Tech Agriculture. (2023). United States: IGI Global. **Unmanned Aerial Vehicle in Modern Agriculture** • Zaman, Q. (Ed.). (2023). Precision Agriculture: Evolution, Insights and Emerging Trends. Netherlands: Elsevier **Precision Agriculture: Evolution, Insights and Emerging Trends** • Applying Drone Technologies and Robotics for Agricultural Sustainability. (2023). United States: IGI Global.

	Use of Drone Technology in Agriculture • Krishna, K. R. Agricultural Drones. (2021): Apple Academic Press, Incorporated. **Agricultural Drones** • https://cgspace.cgiar.org/bitstream/handle/10568/89779/ICT082E_PDF.pdf **Drone for Agriculture** • https://www.ijcmas.com/9-6-2020/R.%20B.%20Kalamkar,%20et%20al.pdf **Drone and its Applications in Agriculture** • https://www.youtube.com/watch?v=fe_enhIXcf8 **First Flight and Practicing with the Agras** • https://www.youtube.com/watch?v=TtjR0VhTKXQ **The Safety Application of Agricultural Drone** • https://www.youtube.com/watch?v=Cjmt3XOy160 **Different DJI Drones for Mapping/Surveying - Beginner**

MODULES

Weeks	Module Title	Day	Hour	Learning Units	Tasks
Week 1	Introduction to Remote Sensing in Agriculture	1	1	Introduction to the basic principles of remote sensing	
			2	Explanation of key terms and concepts (e.g., electromagnetic spectrum, sensors)	
			3	Importance of remote sensing in agriculture	
			4	Discussion on how remote sensing technology has evolved over time	
		2	1	Understanding the structure and components of agricultural systems	
			2	Identification of key challenges in modern agriculture	
			3	Group discussion on the role of technology in addressing agricultural challenges	
			4	Case studies illustrating successful applications of remote sensing in agriculture	
		3	1	Historical development of remote sensing technology	Task 1
			2	Milestones and breakthroughs in agricultural remote sensing	
			3	Evolution of sensors and platforms used in agricultural applications	
			4	Group discussion on the significance of historical developments	
		4	1	Overview of diverse applications in agriculture (e.g., crop monitoring, precision farming)	
			2	Case studies highlighting successful applications in different regions	Task 2
			3	Examining the impact of remote sensing on agricultural productivity	
			4	Q&A session and open discussion on potential applications	

		5	**1 -4**	Discussion and Task Evaluation	**Task 3**
Week 2	**Basics of Agricultural Systems**	**1**	**1**	Introduction to the components of agricultural systems (crops, soil, climate, management)	
			2	Discussion on the interconnectedness of agricultural elements	
			3	Overview of different types of agricultural systems (e.g., monoculture, polyculture)	
			4	Case studies illustrating diverse agricultural practices worldwide	
		2	**1-2**	In-depth exploration of challenges faced by modern agriculture (e.g., climate change, resource scarcity)	**Task 4**
			2	Group discussion on how these challenges impact agricultural systems	
			3-4	Circuit Designing, Printed Circuit Boards (PCB), Simulation	Task 5
				Introduction to technology-driven solutions for agricultural challenges	
		3	1	Understanding the historical adoption of technology in agriculture	
			2	Discussion on the benefits and limitations of technology in farming	
			3	Examining modern precision agriculture practices	**Task 6**
			4	Group activity: Brainstorming innovative ways technology can enhance agricultural systems	
		4	1	Introduction to precision agriculture principles	
			2	Overview of technologies such as GPS, sensors, and automation in precision farming	Task 7
			3	Case studies showcasing the implementation of precision agriculture in different regions	
			4	Hands-on activity: Simulating a precision agriculture scenario	Task 8
		5	1-2	Discussing potential challenges and solutions in adopting precision agriculture techniques	

			3-4	Discussion and Tasks Evaluation	**Task 9**
Week 3	**Remote Sensing Platforms for Agriculture**	**1**	**1-2**	Introduction to satellite systems used in remote sensing	
			3	Characteristics of satellite sensors and their suitability for different agricultural needs	Task 10
			4	Case studies demonstrating successful utilization of satellite imagery in agriculture	
		2	**1**	Overview of UAV technology and its applications in agriculture	**Task 11**
			2	Comparison of satellite and UAV platforms for specific agricultural tasks	Task 12
			3	Examples of successful drone applications in precision farming	
			4	Regulatory considerations and safety measures for UAVs in agriculture	
		3	1	Techniques for planning and executing satellite data acquisition	Task 13
			2	Factors influencing the selection of specific data acquisition strategies	Task 14
			3	UAV flight planning and mission design for agricultural monitoring	
			4	Practical considerations for optimizing data acquisition efficiency	
		4	1	Overview of major satellite data archives (e.g., NASA, ESA)	
			2	Hands-on exercise: Accessing and downloading satellite imagery for agricultural analysis	Task 15
			3	Challenges and considerations in retrieving satellite data.	
			4	Best practices for handling and managing large datasets in agriculture	
		5	1	discussion on common challenges in accessing and retrieving satellite data	
			2	Selecting agricultural regions for	Task 16

				satellite data analysis	
			3	Discussions and Task Evaluation	Task 17
			4		
Week 4	**Data Acquisition and Sources**	**1**	1	Overview of techniques for acquiring remote sensing data (satellite, UAV, ground-based)	
			2	Discussion on the advantages and limitations of each technique	
			3	Case studies illustrating successful applications of different data acquisition techniques in agriculture	
			4	Class discussion on selecting appropriate techniques for specific agricultural needs	Task 18
		2	1	Review of major satellite data archives	Task 19
			2	Hands-on exercise: Accessing and downloading satellite imagery for agricultural analysis	
			3	Challenges and considerations in retrieving satellite data	
			4	Best practices for handling and managing large datasets in agriculture	
		3	1	Importance of quality assessment in remote sensing data	
			2	Methods for evaluating the quality of satellite and UAV imagery	Task 20
			3	Class exercise: Assessing the quality of provided datasets	
			4	Discussion on the impact of data quality on agricultural analysis	
		4	1-2	Introduction to relevant software tools for data exploration and analysis	Task 21
			3	Class activity: Analyzing patterns and trends in satellite imagery	Task 22
			4	Class discussion on initial findings and challenges encountered	
		5	1-4	Discussion and Task Evaluation	Task 23
Week 5	**Image Preprocessing and Enhancement**	**1**	1	Introduction to radiometric correction in remote sensing	

			2	Explanation of common radiometric correction techniques	
			3	Overview of geometric correction and its significance	
			4	Practical exercise: Radiometric and geometric correction on sample imagery	Task 24
		2	1	Importance of atmospheric correction for remote sensing data	
			2	Techniques for atmospheric correction	
			3	Hands-on session: Implementing atmospheric correction on provided datasets	Task 25
			4	Discussion on challenges and considerations in atmospheric correction	
		3	1-4	Quality Assessment of Corrected Data.	Task 26
		4	1	Introduction to image enhancement techniques	
			2	Overview of histogram equalization, contrast stretching, and other methods	
			3	Practical session: Applying image enhancement techniques to improve visual interpretation	Task 27
			4	Group discussion on the benefits and limitations of different enhancement methods	
		5	1	Defining an image preprocessing workflow for the provided agricultural datasets	Task 28
			2	Collaborative development of a preprocessing workflow	
			3	discussing each group's defined workflow	
			4	Q&A session and feedback Session	
Week 6	Midterm				
Week 7	**Multispectral and Hyperspectral Imaging**	**1**	1	Introduction to multispectral and hyperspectral imaging	
			2	difference between multispectral and hyperspectral data	
			3	Characteristics of multispectral and hyperspectral sensors	
			4	Case studies showcasing successful applications of multispectral and hyperspectral	Task 29

				data in agriculture	
		2	1	Overview of the spectral bands and their relevance in agriculture	
			2	Discussion on how different bands can be used to monitor specific agricultural parameters	Task 30
			3	Class discussion on the interpretation of spectral bands in the context of agriculture	
			4	Practical exercise: Analyzing a multispectral image for crop monitoring.	Task 31
		3	1	Explanation of common vegetation indices (e.g., NDVI, NDRE)	
			2	Understanding the significance of vegetation indices in agriculture	
			3	Practical session: Calculating vegetation indices from multispectral data	Task 32
			4	Class activity: Interpreting vegetation indices for crop health assessment	
		4	1	Overview of techniques for crop classification using multispectral and hyperspectral data	
			2	Discussion on the challenges and considerations in crop classification	
			3	Hands-on exercise: Implementing crop classification techniques on sample datasets	Task 33
			4	Group discussion on the accuracy and limitations of crop classification methods	
		5	1-2	Integrating multispectral and hyperspectral data for agricultural analysis	
			3-4	Discussion and Task Evaluation	Task 34
Week 8	**Introduction to Mapping Drones**	1	1	What is Drone Mapping?	
			2-3	Types of Aerial Imagery: RGB Imaging & Multispectral Imaging	
			4	Mapping and their Applications in Agriculture	
		2	1	Mapping Drone Selection Process: Specification and Price etc.	Task 35

			2-3	Field Data Collection	Task 36
			4	Limitation of Different Models of Mapping Drones	
		3	1	Software overview: exploring Mapping and Data Analysis	Task 37
			2	Software used in Agricultural Drone Applications	
			3	RTK Based Mission Planning	Task 38
			4		
		4	1-2	Lidar Mapping	Task 39
			3	Types of thermal sensors	
			4		
		5	1	SAR Introduction	Task 40
			2		
			3	Discussing Performed Tasks during the week	
			4		Task 41
Week 9	**Drone Data Acquisition and Preprocessing**	**1**	1-2	Introduction to Drone Data Acquisition	
			3	Understanding Regulatory Considerations	
			4	Safety Protocols and Pre-flight checks	
		2	**1**	Data Preprocessing Techniques	**Task 42**
			2		
			3-4	Introduction to ArcGIS Installation of software	**Task 43**
		3	**1**	Introduction to Image Classification Techniques	
			2		
			3	Supervised vs Unsupervised Classification	
			4	Accuracy Assessment of Classified Data	
		4	**1**	Hands-on Practice of Unsupervised Image Classification	**Task 44**
			2		
			3	Hands-on Practice on Supervised Classification	**Task 45**
			4		
		5	**1**	Hands-on Practice on Accuracy Assessment	**Task 46**
			2		

			3	Discussion and Evaluation	**Task 47**
			4		
Week 10	**Drone Mission Planning and Execution**	**1**	**1-2**	Introduction to Mission Planning	
			3-4	Planning Mapping Missions for Varied Agricultural Landscapes and Crop Types.	**Task 48**
		2	**1-4**	Adapting Flight Plans for Seasonal Changes and Different Growth Stages of Crops.	**Task 49**
		3	**1-4**	Field Visit for Data Acquisition	**Task 50**
		4	**1-4**	Prepare a Project to Calculate Particular Indices to Monitor Crop Health: NDVI & SAVI etc.	**Task 51**
		5	**1-4**	Download satellite Imagery/Sample Data to Calculate Different Vegetation Indices and compare with drone data	**Task 52**
Week 11	**Time Series Analysis and Change Detection**	**1**	**1**	Introduction to time series analysis in remote sensing	
			2	Understanding the significance of temporal trends in agricultural monitoring	Task 53
			3-4	Overview of satellite data time series and their applications in agriculture & Case Studies	
		2	**1**	Principles of change detection in remote sensing	
			2	Techniques for detecting changes in land cover and land use	Task 54
			3	Hands-on exercise: Change detection using satellite imagery	
			4	Class discussion on interpreting and validating change detection results	
		3	**1**	Application of time series analysis in monitoring deforestation	
			2	Identifying signs of land degradation using remote sensing data	

			3-4	Practical session: Analyzing time series data for deforestation and land degradation	Task 55
		4	**1-2**	Introduction to advanced data analysis techniques in remote sensing	
			3-4	Overview of machine learning and artificial intelligence applications in agriculture	Task 56
		5	**1-2**	Closing Remarks	
			3-4	Volunteer Presentations from Participants	Task 57
Week 12	**Final Exams**				

Annexure-I:

Tasks for Certificate in Remote Sensing Applications in agriculture

Task No	Task	Description	Week
1.	**Sources of Remote Sensing**	Discuss the types of mediums used to acquire Remote Sensing data throughout history and their importance	Week 1
2.	**Impact of Remote Sensing Applications on Pakistan's Agriculture**	Discuss about importance of agriculture in Pakistan and its development due to Advance Remote Sensing Techniques	
3.	**Task Evaluation**	Discussion on task performed and evaluation of the week	
4.	**Effect of Climate Change on Agricultural Practices**	The effect of recent climate changes on agriculture dependent countries including Pakistan Adoption and Mitigation of Climate Change	Week 2
5.	**Overview of Arduino**	Discuss the types of softwares used for designing circuits	
6.	**Precision Agriculture Technologies**	Discuss different precision agriculture technologies used worldwide	
7.	**GPS Overview**	Use of GPS for data collection and automation	
8.	**Hands-on Practice**	Perform a case scenario about implication of a precision agriculture system	
9.	**Task Evaluation**	Discussion on task performed and evaluation of precision agriculture technologies	
10.	**Satellites used for Agriculture**	Review different remote sensing satellites and choosing efficient satellites for Agriculture	Week 3
11.	**Aerial Remote Sensing Platforms**	Discuss use of UAVs in agricultural practices	
12.	**Comparison between Satellites and UAVs**	Discuss advantanges and disadvantages of different remote sensing platforms and sensors for agriculture	
13.	**Data Acquisition Techniques**	Discuss different remote sensing data acquisition and implication techniques	
14.	**Strategies for UAV Data Acquisition**	Discuss the factors affecting data acquisition Discuss UAV data acquisition Techniques	
15.	**Data Downloading**	Discuss different public platforms for downloading satellite data products	
16.	**Identification of Agricultural regions**	Hands-on Practice: Identify and select agricultural regions in satellite imagery for agricultural analysis	
17.	**Discussion and Evaluation**	Discussion about the use of different remote sensing platforms and factors affecting these platforms	
18.	**Introduction of Data Acquisition Techniques**	Overview of agriculture specific data acquisition techniques	Week 4

19.	**Remote Sensing Data for Agriculture**	Downloading remote sensing data for agricultural use(MODIS, Sentinel-2, etc)	
20.	**Data Quality Analysis**	Evaluate the importance of quality assessment of remote sensing data (UAVs and satellites) Hands-on practice on data quality analysis	
21.	**Remote Sensing Data Management Softwares**	Hands-on Activity: Installation of different Remote Sensing softwares(ERDAS/ENVI)	
22.	**Analyzing Trends**	Discuss temporal and spatial trends and patterns in remote sensing data	
23.	**Discussion and Evaluation**	Evaluation of Class activities performed during the week	
24.	**Hands-on Practice on Geometric and Radiometric Correction**	Perform radiometric and geometric correction using software	Week 5
25.	**Hands-on Practice on Atmospheric Correction**	Perform Atmospheric Correction on provided data	
26.	**Quality Assessment of Corrected Data**	Evaluate the quality of Processed Data	
27.	**Applying Image Enhancements Techniques**	Perform image enhancements techniques on satellite data	
28.	**Designing workflow for Image Preprocessing**	Step by Step Development of Data Preprocessing Techniques for Image Enhancements	
29.	**Sources and Applications of MSS and HSS**	Overview of different platforms and sensors for multispectral and hyperspectral data acquisition and their applications in agriculture	**Week 7**
30.	**Band Combinations and Applications**	Discussing different band combinations and their applications in different agricultural analysis	
31.	**Hands-on Exercise**	Perform analysis on acquired MSS Image for crop monitoring	
32.	**Calculating Vegetation Indices**	Perform different vegetation indices (NDVI, NDRI, SAVI, etc) on MSS data Interpretate these indices for crop health assessment	
33.	**Hands-on Practice**	Perform techniques used to classify crops on provided datasets	
34.	**Discussion and Evaluation**	Ask students what they learnt during the week Discuss different vegetation techniques using scenario-based cases	
35.	**Pricing of UAV Data**	Overview of Selection of objective-related drones Evaluate pricing of different UAV products	**Week 8**
36.	**UAV Field Data**	Discuss different techniques for collecting field data	

	Collection Techniques	using Drones	
37.	**Drone Data Analysis Softwares**	Overview of Drone mapping softwares such as PIX4D, Drone Deploy, etc	
38.	**RTK**	Complete Overview of Real-Time Kinematic, DGPS and RTK-Drone impilications	
39.	**LiDAR Mapping**	Discuss applications of LiDAR mapping in agriculture Hands-on Practical Performance on Preprocessing and analysis of LiDAR Data	
40.	**Synthetic Aperture Radar**	Discussion and Performance on SAR Data collection and mapping techniques	
41.	**Discussion and Evaluation**	Evaluation of Class activities performed during the week	
42.	**Data Preprocessing Techniques**	Discuss different types of techniques and workflows involved in preprocessing of data	**Week 9**
43.	**Role of ArcGIS**	Perform installation and hand-on practice of preprocessing data in ArcGIS	
44.	**Unsupervised Classification Techniques**	Perform Unsupervised classification on any software (ArcGIS, ERDAS, etc.) Evaluate the Results	
45.	**Supervised Image Classification**	Perform Supervised Image Classification Evaluate the Results	
46.	**Accuracy Assessment**	Perform Hands-on Practice on Accuracy Assessment Calculation of Producer's, Consumer's and Overall Accuracy Calculating Kappa Coefficient	
47.	**Discussion and Evaluation**	Discuss advantages and disadvantages of techniques studied during the week	
48.	**Mapping Missions for Agricultural Landscapes**	Discuss Tailoring Mapping Strategies for specific crops	**Week 10**
49.	**Adaptation and Mitigation of Flight Plans**	Discuss specific needs to plan Temporal crop changes	
50.	**Ground Truthing**	Overview the importance verifying data on the ground Discuss different techniques for ground data collection	
51.	**Indices and Crop Health Monitoring**	Using Drone Data to analyze and monitor crop practices	

52.	**Comparison of Satellite and Drone Data**	Hands on Practice: Perform and compare indices for drone data and satellite data	**Week 11**
53.	**Temporal Trend Analysis**	Discuss and perform temporal trend analyses on agricultural data	
54.	**Change Detection**	Perform different change detection techniques and validate the results	
55.	**Applications of Temporal Analysis**	Hands-on Practice: Analyze time series data for deforestation and land degradation	
56.	**Advanced Remote Sensing Techniques**	Overview advanced machine learning techniques Discuss Neural Networks and Cloud Computing (e.g. Google Earth Engine)	
57.	**Presentations**	Volunteer Presentations from Participants	

Annexure-II:
Motivational Lectures and resources
Remote Sensing Applications in Agriculture

What Is the Role of Good Manners in the Workplace? By Qasim Ali Shah | In Urdu

https://www.youtube.com/watch?v=Qi6Xn7yKIlQ

- Handbook of Research on AI-Equipped IoT Applications in High-Tech Agriculture. (2023). United States: IGI Global.

Unmanned Aerial Vehicle in Modern Agriculture

- Zaman, Q. (Ed.). (2023). Precision Agriculture: Evolution, Insights and Emerging Trends. Netherlands: Elsevier

Precision Agriculture: Evolution, Insights and Emerging Trends

- Applying Drone Technologies and Robotics for Agricultural Sustainability. (2023). United States: IGI Global.

Use of Drone Technology in Agriculture

- Krishna, K. R. Agricultural Drones. (2021): Apple Academic Press, Incorporated.

Agricultural Drones

- https://cgspace.cgiar.org/bitstream/handle/10568/89779/ICT082E_PDF.pdf

Drone for Agriculture

- https://www.ijcmas.com/9-6-2020/R.%20B.%20Kalamkar,%20et%20al.pdf

Drone and its Applications in Agriculture

- https://www.youtube.com/watch?v=fe_enhIXcf8

First Flight and Practicing with the Agras

- https://www.youtube.com/watch?v=TtjR0VhTKXQ

The Safety Application of Agricultural Drone

- https://www.youtube.com/watch?v=Cjmt3XOy160

Different DJI Drones for Mapping/Surveying - Beginner

MOTIVATIONAL LECTURES LINKS.

TOPIC	SPEAKER	LINK
How to Face Problems In Life	Qasim Ali Shah	https://www.youtube.com/watch?v=OrQte08Ml90
Just Control Your Emotions	Qasim Ali Shah	https://www.youtube.com/watch?v=JzFs yJt-w
How to Communicate Effectively	Qasim Ali Shah	https://www.youtube.com/watch?v=PhHAQEGehKc
Your ATTITUDE is Everything	Tony Robbins Les Brown David Goggins Jocko Willink Wayne Dyer Eckart Tolle	https://www.youtube.com/watch?v=5fS3rj6eIFg
Control Your EMOTIONS	Jim Rohn Les Brown TD Jakes Tony Robbins	https://www.youtube.com/watch?v=chn86sH0O5U
Defeat Fear, Build Confidence	Shaykh Atif Ahmed	https://www.youtube.com/watch?v=s10dzfbozd4
Wisdom of the Eagle	Learn Kurooji	https://www.youtube.com/watch?v=bEU7V5rJTtw
The Power of ATTITUDE	Titan Man	https://www.youtube.com/watch?v=r8LJ5X2ejqU
STOP WASTING TIME	Arnold Schwarzenegger	https://www.youtube.com/watch?v=kzSBrJmXqdg
Risk of Success	Denzel Washington	https://www.youtube.com/watch?v=tbnzAVRZ9Xc

Annexure-III:

Workplace/Institute Ethics Guide

Work ethic is a standard of conduct and values for job performance. The modern definition of what constitutes good work ethics often varies. Different businesses have different expectations. Work ethic is a belief that hard work and diligence have a moral benefit and an inherent ability, virtue, or value to strengthen character and individual abilities. It is a set of values-centered on the importance of work and manifested by determination or desire to work hard.

The following ten work ethics are defined as essential for student success:

1. **Attendance:**

Be at work every day possible, plan your absences don't abuse leave time. Be punctual every day.

2. **Character:**

Honesty is the single most important factor having a direct bearing on the final success of an individual, corporation, or product. Complete assigned tasks correctly and promptly. Look to improve your skills.

3. **Team Work:**

The ability to get along with others including those you don't necessarily like. The ability to carry your weight and help others who are struggling. Recognize when to speak up with an idea and when to compromise by blend ideas together.

4. **Appearance:**

Dress for success set your best foot forward, personal hygiene, good manner, remember that the first impression of who you are can last a lifetime

5. **Attitude:**

Listen to suggestions and be positive, accept responsibility. If you make a mistake, admit it. Values workplace safety rules and precautions for personal and co-worker safety. Avoids unnecessary risks. Willing to learn new processes, systems, and procedures in light of changing responsibilities.

6. **Productivity:**

Do the work correctly, quality and timelines are prized. Get along with fellows, cooperation is the key to productivity. Help out whenever asked, do extra without being asked. Take pride in your work, do things the best you know-how. Eagerly focuses energy on accomplishing tasks, also referred to as demonstrating ownership. Takes pride in work.

7. **Organizational Skills:**

Make an effort to improve, learn ways to better yourself. Time management; utilize time and resources to get the most out of both. Take an appropriate approach to social interactions at work. Maintains focus on work responsibilities.

8. Communication:

Written communication, being able to correctly write reports and memos.

Verbal communications, being able to communicate one on one or to a group.

9. Cooperation:

Follow institute rules and regulations, learn and follow expectations. Get along with fellows, cooperation is the key to productivity. Able to welcome and adapt to changing work situations and the application of new or different skills.

10. Respect:

Work hard, work to the best of your ability. Carry out orders, do what's asked the first time. Show respect, accept, and acknowledge an individual's talents and knowledge. Respects diversity in the workplace, including showing due respect for different perspectives, opinions, and suggestions.