Course Code: AGRO 516 Course Title: Agronomic Research (Elective)	Credit Hour: 03	Semester: January - June
Rationale: This course is designed to acquaint with agricultural/agronomic research and experimental designs, its necessity and justification, experiment set up and execution and finally presentation for criticism/improvement/dissemination of research findings followed by proper documentation.		
Course Outcomes: • Conceptualize agricultural/agronomic research • Explain significance of National Agricultural Research System (NARS) • Acquaint with national and international agricultural research institutes, • Acquaint with experimental design and set up of experiment independently • Apply research data analyses and interpretation • Write thesis and scientific paper • Prepare and present experiment at trading		

Intended Learning Outcomes (ILOs) The students will be able to-	**Course Content**	**Teaching-Learning Strategies**	**Assessment Strategies**
• Explain about agricultural/agronomic research & its importance • Justify the formation of NARS • Evaluate the contributions of national organizations through their agricultural/agronomic research • Interpret the research activities done by international organizations	**Agricultural Research System in Bangladesh:** NARS, National and International organizations involved in agronomic research.	Lecture Visual presentation Discussion Assignments	Quiz/MCQ Short answers Essay type answers Reports
• Solve researchable problems • Set up of experiments with appropriate design	**Experimental design:** Types of experiments. Experimental designs appropriate for agronomic experimentation, their merits and demerits.	Lecture Visual presentation Discussion Assignments	Quiz/MCQ Short answers Essay type answers Reports
• Prepare Research Planning • Explain researchable problems • Identify the national • researchable problems and prioritize problems to come up with solution	**Research Planning Methodology:** Purpose of conduction research, Research planning, Identification of researchable problems, Prioritization of agronomic problems and their possible solution through agronomic research, Data collection for different crops.	Lecture Visual presentation Discussion	Quiz/MCQ Short answers Essay type answers Reports

Intended Learning Outcomes (ILOs) The students will be able to-	**Course Content**	**Teaching-Learning Strategies**	**Assessment Strategies**
• Collect data from experimental fields			
• Compare experimental data • Gather knowledge on correlation and regression analysis • Compare among treatment variables following research objectives • Apply statistical packages for experimental data analysis • Justify agronomic research findings and put forward as technology	**Statistical Analysis of Experiments data:** Analysis of variance, Comparison of treatment means. Regression and correlation analysis. Statistical packages for data analysis.	Lecture Visual presentation Discussion Assignments	Quiz/MCQ Short answers Essay type answers Reports
• Write thesis correctly • Prepare scientific paper • Publish scientific paper in national and international journals	**Thesis/ Scientific paper writing:** Structure and procedure of SAU thesis, data interpretation. Write up a scientific paper as assignment.	Lecture Visual presentation Discussion	Quiz/MCQ Short answers Essay type answers
• Design the dissemination of research findings • Prepare effective slides • Present research findings in presence of audience	**Presentation of Research Findings:** Write-up. Slide preparation. Points considered for effective and enjoyable presentation.	Lecture Visual presentation Discussion	Quiz/MCQ Short answers Essay type answers Performance test

Reference Books

1. Anonymous. 1990. Research Planning and Evaluation Training Course Resource Manual, BARC, Dhaka & BARI, Joydebpur.
2. K.A. Gomez and A.A. Gomez. 1984. Statistical Procedures for Agricultural Research. Second Edition, International Rice Research Institute, John Wiley & Sons, New York, pp. 01-340.
3. R.I. Mondal, M.S. Islam, M.A,J. Bhuiya, M.M. Rahman, M.S. Alam and M.H.H. Rahman. 2011. Krishi Projukti Hatboi, 5th Edition, Bangladesh Agricultural Research Institute, Joydebpur, Gazipur.
4. S.C. Panda. 2014. Agronomy, AGROBIOS Publication, New Delhi, India.
5. S.M.H. Zaman, K. Rahim and M. Howlader. 1982. Simple Lessons from Biometry, Bangladesh Rice Research Institute, 170p.
6. V.C. Srivastava. 2014. Modern Principles of Agronomy, AGROBIOS (India).