AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Introduction to Remote Sensing								
Course Code	BSM415		Couse Level		First Cycle (Bachelor's Degree)				
ECTS Credit	5	Workload	125 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To gain knowledge and skills about the principles of Remote Sensing (RS), tools used in RS, software and digital data, RS application areas, RS applications in agriculture and natural resources monitoring.								
Course Content	Basic principles of remote sensing, usage areas, space platforms used in UA, satellite images, applications of UA in agriculture								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion, Case Study								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Sesören, A., 1999. Uzaktan Algılamada Temel Kavramlar. Mart Matbaacılık, İstanbul.
2	Lillesand, T.M., Kiefer, R.W., 2000. Remote Sensing and Image Intrpretation. Fourth Ed. John. Wiley and Sons, Inc., New York, 710 pp.
3	Aronoff, S. 2005. Remote Sensing for GIS Managers. ESRI press, Redlands, California, USA. 487p.
4	Buiten , H.J., Clevers J.G.P.W., 1993. Land Observation By Remote Sensing Theory and Applications. Wageningen Agricultural Uni. The Netherlands. Gordon and Breach Sience Publishers.
5	Shresta, D.P., 1991. An Introduction to Remote Sensing From Space. ITC, International Institute for Aerospace Survey and Earth Sciences

Week	**Weekly Detailed Course Contents**	
1	Theoretical	Introduction
2	Theoretical	Remote Sensing Application Areas
3	Theoretical	Basic principles of remote sensing
4	Theoretical	Electromagnetic Radiation
5	Theoretical	Image and Digital Image Processing
6	Theoretical	Space Platforms Used in Remote Sensing
7	Theoretical	Space Platforms Used in Remote Sensing
8	Theoretical	Space Platforms Used in Remote Sensing
9	Theoretical	Satellite Images (Midterm Exam)
10	Theoretical	Image processing
11	Theoretical	Classification, Pixelization
12	Theoretical	Applications of Remote Sensing in Agriculture
13	Theoretical	Remote Sensing and Soils
14	Theoretical	Mapping Soils with Remote Sensing Techniques

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	5	3	112
Midterm Examination	1	5	1	6
Final Examination	1	6	1	7
			Total Workload (Hours)	125
			[Total Workload (Hours) / 25*] = **ECTS**	5
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To describe the definition of RS, basic principles and elements of RS, areas of general and agricultural use of RS.
2	To define the properties of remote sensing hardware and software commonly used in Turkey and in the World.
3	To define the basic elements of RS, digital data sources and methods of obtaining data.
4	To interpret the basic RS techniques used for monitoring natural resources such as soil, water and forest.
5	To follow the innovations on RS applications for monitoring, protecting and developing natural resources in Turkey and in the World.

Programme Outcomes *(Agricultural Biotechnology)*	
1	Mathematics, science and Agricultural Engineering, adequate knowledge of the subjects specific to the discipline of Agricultural Biotechnology; ability to use theoretical and applied knowledge in these fields in complex engineering problems.
2	Agricultural Engineering ability to define, formulate and solve complex problems in the field of Agricultural Biotechnology, to choose and apply appropriate analysis and modeling methods for this purpose.
3	Agricultural Engineering ability to design a complex system, process, device or product related to the field of Agricultural Biotechnology, under realistic constraints and conditions, in other words, by considering the available possibilities and the current state of the field, and the ability to apply modern design methods for this purpose.
4	Agricultural Engineering ability to choose and use modern tools necessary for the analysis and solution of complex problems encountered in Agricultural Biotechnology applications, the ability to use information technologies effectively.
5	Agricultural Engineering ability to design, conduct experiments, collect data, analyze and interpret results for the examination of complex problems or discipline-specific research issues in the field of Agricultural Biotechnology.
6	Ability to work effectively in disciplinary and multi-disciplinary teams; individual study skills.
7	Ability to write effective reports in the field and to understand written reports, to prepare design and production reports, to make effective presentations, to take and give clear and understandable instructions.
8	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
9	Knowledge of ethical principles, professional and ethical responsibility, and standards used in engineering practices.
10	Agricultural Engineering Information about applications in business life such as project management, risk management and change management in the field of Agricultural Biotechnology; awareness of entrepreneurship, innovation; information about sustainable development.
11	Agricultural Engineering Information about the effects of Agricultural Biotechnology applications on health, environment and safety in universal and social dimensions and the problems of the age reflected in the field of engineering; awareness of the legal consequences of engineering solutions.