AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Serology of Plant Viruses								
Course Code	ZBK532		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Understanding of the antigenic properties of plant viruses Intended to be used in the diagnosis of the antigenic properties of viruses.								
Course Content	The purpose of this course is to explain the antigenic properties of plant viruses. Because of that ımmune response, ımmunology, ımmunoglobulin and antigenic reaction, antibody molecules, antibody response, antigens and antigenic determinants, immunizing anımals are described. Moreover polyclonal and monoclonal (hibridoma tecniques) antibodies, virus purification, preparation of antisera and purification of antibodies , antigen-antibody ınteraction, serological techniques (presipitation, diffusion, immunoblotting, immunoelectrophoresis, immunoelectromicroscopy ,ELISA)and Immunochemical studies of plant viruses are clarified.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Project Based Study, Individual 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	Van Regenmortel M.H.V. 1982 Serology and immunochemistry of Plant Viruses, Academic Pres New York 267p
2	Harlow E. And Lane D. 1988 Antibodies A Laboratory Manual CSH Lab.
3	Hill S.A.1984 Methods in Plant Virology Blackwell S.P. London 165p

Week	Weekly Detailed Course Contents	
1	Theoretical	Immune response , Immunology
2	Theoretical	Immunoglobulin and antigenic reaction
3	Theoretical	Antibody molecules
4	Theoretical	Antibody- antigen interaction
5	Theoretical	Antibody response
6	Theoretical	Immunızations, pure antigens
8	Theoretical	Immunizing animals
9	Theoretical	Polyclonal and Monoclonal antibodies
10	Theoretical	Virus purification
11	Theoretical	Preparation of antisera and purification of antibodies
12	Theoretical	Serolojik teknikler: presipitation, diffusion, immunoelectrophoresis, immunoelectromicroscopy
13	Theoretical	Immunoblotting, ELISA
14	Theoretical	Immunochemical studies of plant viruses
15	Final Exam	sınav

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Lecture - Practice	14	3	2	70
Midterm Examination	1	34	1	35

Final Examination	1	38	1	39
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Understanding of the immune response
2	Learning of the antigenic determinants …
3	3. Understanding of antigen-antibody interaction …
4	Application of serological methods …
5	

Programme Outcomes *(Plant Protection Master)*	
1	To develop knowledge and abilities that gained during undergraduate education
2	To gain ability to search and pursue current literature
3	To gain ability to plan and write projects that help solving problems in field of study.
4	To gain ability to conduct research, analyze data, evaluate research results scientifically and preapare reports and thesis writing.
5	Students will be able to learn and apply the laboratory test and analysis methods
6	To recognize occupational and ethical responsibility

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	3	4	3	5	4
P2	4	4	4	5	3
P3	4	5	5	5	5
P4	4	3	4	5	4
P5	5	5	5	5	4
P6	3	4	4	5	4