


**MODULE HANDBOOK**

	<b>UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME</b>	<b>COURSE CODE: D10D0042</b>
<b>Module designation</b>	Virology	
<b>Semester(s) in which the module is taught</b>	5 or 6	
<b>Person (s) responsible for the module</b>	1. Dr. Mia Miranti Rustama 2. Prof. Dr. Ratu Safitri 3. Yolani Syaputri, Ph.D	
<b>Medium of instruction</b>	Indonesian	
<b>Relation to curriculum</b>	Elective course	
<b>Teaching methods</b>	Lectures, discussions, cooperative learning, Project-based Learning and inquiry learning	
<b>Workload</b>	Total workload : 8160 minutes = 136 hours Lectures, discussions, cooperative learning, and inquiry learning : 3 x 50 minutes x 16 weeks = 2400 minutes = 40 hours Exercises : 3 x 60 minutes x 16 weeks = 2880 minutes = 48 hours Self-study : 3 x 60 minutes x 16 weeks = 2880 minutes = 48 hours	
<b>Credit points</b>	3,00 (5,43 ECTS)	
<b>Required and recommended prerequisites for joining the module</b>	Microbiology	
<b>Module objectives/intended learning outcomes</b>	1. Students are able to explain the history of virus discovery, describe the structure and morphology of viruses along with similar agents such as prions and viroids, and understand the basic principles of virus nomenclature and definitions 2. Students are able to explain virology methods and molecular virus detection, including the identification of the main components of viruses 3. Students are able to apply the concepts of genetics and RNA virus replication strategies, including the processes of attachment, entry, transcription, and transport, to analyze the mechanisms of virus pathogenesis in hosts and their relationship to cancer 4. Students are able to analyze viral infection mechanisms, vaccine and antiviral effectiveness, virus-host interactions, including emerging viruses, and the role of the immune system to determine prevention strategies and the application of viruses as biopesticides 5. Students are able to evaluate the role of ecological and epidemiological factors in virus spread to assess outbreak risks and formulate appropriate control strategies	
<b>Contents</b>	1. History and definition of viruses 2. Methods and molecular detection of viruses 3. Infection and prevention 4. Virus epidemiology	
<b>Examination forms</b>	Quiz, midterm exam, assignment, and final exam	
<b>Study and examination requirements</b>	The minimum attendance in lectures is 80%. Final grades are evaluated based on quiz (10%), midterm exam (15%), assignment (10%), final exam (15%), project and participation (50%)	
<b>Reading lists</b>	1. Chiu, W., R.M. Burnett, and R.L. Garcea. 1997. <i>Structural biology of viruses</i> . Oxford: Oxford University Press. 2. Specter, S., and G. Lancz. 1992. <i>Clinical Virology Manual</i> . New York: Elsevier 3. Voyles, B.A. 2002. <i>The Biology of Viruses</i> . Second Edition. Boston: Mc Graw Hill 4. Carter, J and V. Saunders, 2013. <i>Virology Principles And Application</i> . Willey and sons. 300 halaman 5. Nicholas H. Acheson, 2007. <i>Fundamentals of Molecular Virology</i> . Wiley and sons. 528 halaman 6. Howley, P. M., & Knipe, D. M. (Eds.). (2021). <i>Fields virology</i> (7th ed.). Wolters Kluwer. Philadelphia 7. Flint, J., Racaniello, V. R., Rall, G. F., Skalka, A. M., & Enquist, L. W. (2020). <i>Principles of virology</i> (5th ed.). ASM Press. Washington 8. Collier, L., Oxford, J., & Kellam, P. (2016). <i>Human virology</i> (5th ed.). Oxford University Press. <a href="#">UK</a>	