

Module Descriptions

Module designation	Immunology (course code MPB 4156)
Semester(s) in which the module is taught	6 th semester of Bachelor Programme in Biology
Person responsible for the module	Diah Wulandari Rousdy, S.Si., M.Sc.
Lecture (s)	1. Diah Wulandari Rousdy, S.Si., M.Sc. 2. Kartika Prabasari, S.Si., M.Si. 3. Firman Saputra, S.Si., M.Sc.
Language	Indonesia
Names of other study programmes with which the module is shared	-
Relation to curriculum	Elective course
Teaching methods	Lecture, case-based learning, discussion
Workload (incl. contact hours, self-study)	Total workload: 4.38 ECTS Lecture: 26,6 hours (0,99 ECTS) Assignment: 46.5 hours (1.72 ECTS) Self-study: 44.9 hours (1.67 ECTS) Self-study hours are estimation numbers of hours; each student will approach studying in different ways.
Credit points	2 credits
Required and recommended prerequisites for joining the module	Students have taken Animal Physiology (MPB 3226)
Module objectives/intended learning outcomes	Intended Learning Outcomes (ILO) Knowledge (ILO-2) Able to integrate and apply biological science and other scientific fields that support the development of biological science. General Skill (ILO-3) Able to collaborate effectively within a team and to communicate actively, both orally and in writing, in the domain of biology. Course outcomes (CO) CO 1. Students are able to analyse the relationship between the structure and function of the cells, tissues, and organs that constitute living organisms. CO 2. The ability to collaborate within a team to successfully complete case studies or projects in the field of biology and to present the findings effectively.
Content	Immunology is a course that discusses the animal's defence system. Students are able to distinguish and describe components of the immune system of invertebrates and vertebrates, lymphoid organs, the first defence system (physical, chemical, biologic barriers), blood coagulation processes, inflammation processes. Students are able to distinguish non-specific immune systems and specific immune system signals, control of immunity, and immunology methods. Students are also able to analyse several cases related to the immune response.

Examination forms	1. Midterm (written test) 25% 2. Final Exams (written test) 25% 3. Assignment (case study report, presentation) 40% 4. Quiz / individual activity 10%
Study and examination requirements	75% attendance
Reading list	1. Baratawidjaja, K. G., & Rengganis, I. (2012). <i>Imunologi Dasar</i> (10th ed.). FK UI Press. 2. Campbell, N.A., Reece, J.B., Lawrence, M.G. (2005). <i>Biology</i> 5th edition. Erlangga Publisher, Jakarta. 3. Paul, W.E. (2013). <i>Fundamental Immunology</i>. Lippincot Williams and Wilkins. 4. Janeway, C.A., Travers, P., Walport, M., Shlomchik, M. (2001). <i>Immunobiology</i>. Garland publishing 5. Murphy, K., Weaver, C., & Janeway, C. A. (2022). <i>Janeway's Immunobiology</i> (10th ed.). Garland Science. 6. Sherwood, L. (2010). <i>Human Physiology from cell to System</i>. Brooks USA. 7. Rousdy, D.W.R., Wardoyo ERP., Ifadatin, S. (2022). Anti-inflammatory Activity of Bajakah Stem (<i>Spatholobus littoralis</i> Hassk.) Ethanolic Extract in Carrageenan-Induced Paw Edema Mice. <i>Jurnal Biodjati</i> 7(1): 66-74