

MAMMALIAN CELL CULTURE

Module designation	<i>Mammalian Cell Culture</i>
Semester(s) in which the module is taught	2
Person responsible for the module	1. Prof. Dr. apt. Sukardiman MS (Course Coordinator) 2. Prof. Dr. apt. Aty widyawardiyanti, MSi 3. Tutik Sri Wahyuni, PhD
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory</i> / <i>elective</i> / <i>specialisation</i>
Teaching methods	<i>lecture, discussion, assignment</i>
Workload (incl. contact hours, self-study hours)	<i>(Estimated) Total workload: Contact hours (structured activities.): 90,67 hours Private study including independent learning activities: 90,67 hours</i>
Credit points	<i>2 SCU / 6 ECTS</i>
Required and recommended prerequisites for joining the module	NA

<p>Module objectives/intended learning outcomes</p>	<p>Students are: LO1: Able to realize excellence based on religious morals (excellence with morality), able to work together, and show a responsible attitude to work in their field of expertise independently LO2: Able to internalize the spirit of independence, struggle, and entrepreneurship LO4: Able to develop a pharmaceutical professional performance with analytical acumen in solving pharmaceutical problems and managing research in the pharmaceutical field related to national and global systems and policies, both inter and inter-disciplinary approaches. LO5: Able to access and review information through an Information and Communication Technology (ICT) system, decide on a specific subject of study, maintain the feasibility of implementing research designs, conduct research, analyze data, conclude research results comprehensively, and create strategic issues based on the study that reflect the latest updates in the field of pharmaceutical sciences, and communicate them in the media and scientific forums at the national and international level through an interdisciplinary or multidisciplinary approach in the form of a thesis or other equivalent forms. LO6: Able to make decisions in the context of solving problems related to science and technology development based on analytical or experimental studies through collaboration with colleagues, colleagues in institutions and research communities at both national and international levels and utilizing research results for the benefit of the user and other communities. LO7: Able to analyze natural materials to obtain active ingredients and/or pharmaceutical excipients with due observance of nature conservation. LO11: Able to develop systems for evaluating the bioavailability of drugs in the body, pharmaceutical products circulation permits, and their in-vitro and in-vivo evaluations with specific delivery systems with appropriate analytical methods.</p>
<p>Content</p>	<p>The Cell Culture course presents the basic concepts of mammalian cell culture related to techniques, cell preparation methods, primary cell culture and cell lines in the research and development of natural medicines. Explain the application of cell culture to several bioactivity tests, including cancer cells, plasmodium malaria parasite cells, hepatitis virus cells in the development of anti-cancer, anti-malaria and natural anti-virus medicines.</p>
<p>Exams and assessment formats</p>	<p><i>Take-home written assignments</i></p>
<p>Study and examination requirements</p>	<p><i>the final grade in the module is composed of 30% discussion, 30% presentation, 30% take-home assignments, 10% in-class participation and soft-skills assessment. Students must have a final grade of 70% or higher to pass</i></p>

Reading list	<ol style="list-style-type: none">1. <i>John R.W. Master, 2000, Animal cell Culture, A Practical Approach, 3rd ed, Oxford University Press Inc, New York.</i>2. <i>Castell JV and Gomez-lechon MJ, 1997, In vitro method in Pharmaceutical research, ISBN 0-12-163390-x, Academic Press, San diago, California.</i>3. <i>Arl Marmoroch and Gordon H , Sato , 1988, Advances in cell culture, vol 6, Academic Press, new York</i>4. <i>Bruce C. Baguley & David J. Kerr , 2001, Anticancer drug development, Academic Press, New York.</i>5. <i>John C and Denise L, 2000, Malaria method and Protocol, Humana Press, Trotowa, New Jelsey.</i>6. <i>Tatsuo Miyamura & Stanley M. Lemon & Christopher M. Walker & Takaji Wakita , 2016, Hepatitis C, cellular and molecular virology, Springer</i>
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