MINISTRY OF EDUCATION, CULTURE, RESEARCH AND TECHNOLOGY

UNIVERSITAS NEGERI MAKASSAR

FACULTY OF MATHEMATICS AND NATURAL SCIENCES DEPARTMENT OF BIOLOGY

Kampus UNM Parangtambung, Jalan Dg. Tata Raya Makassar, Phone: +62411 840610, Fax : +62411 841504

Website: http:// http://sainsbiologi.fmipa.unm.ac.id/

Module Handbook for Biomodeling

Module designation	*Biomodeling*
Module level, if applicable	*Bachelor of science*
Code, if applicable	22A42C408
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	*6*
Person responsible for the module	*Dr. A. Mu'nisa., S.Si., M.Si.*
Lecturer	*Dr. Alimuddin, S.Si., M.Si*
Language	*Indonesia*
Relation to curriculum	*Elective course, 6th semester*
Type of teaching, contact hours	*Learning methods: lectures, project based learning,discussions, assignments.* *CSU : 2* *2 x 50 minutes lecture = 100 minutes* *2 x 60 minutes scheduled task = 120 minutes* *2 x 60 minutes independent task = 120 minutes Total teaching format = 340 minutes = 5.7 hours*
Workload	*Total workload = (Total Teaching format x 16) = 5.7 x 16 = 91,2 jam*
Credit points	*2 CSU (3 ECTS)*
Requirements according to the examination regulations	*Student must have attended at least 80% of the lectures to sit in the exams*
Recommended prerequisites	*Biochemistry, Cell Biology*
Module objectives/intended learning outcomes	*1. Students are able to understand the basics of modeling the physiological system of the human body and its limitations.* *2. Students are able to apply science concepts to model physiological systems, particularly in the cardiovascular system.* *3. Students are able to perform dynamic analysis and modeling for ECG.* *4. Students are able to apply the linear prediction method for modeling sound signals.*
Content	*The Biomodeling course is a compulsory subject required to learn about the technique of modeling the human body physiology system based on the characteristics of the physiological system. This course aims to enable students to understand biological functions and apply scientific concepts to model physiological systems. Based on this understanding and analytical skills, students can also use it in the biomedical engineering discipline.*
Study and examination requirements and forms of examination	*Midterm and final exam, assignments*
Media employed	*LMS-SYAM OK, Power Point Presentation, Textbook, Journal Article, Handout*
Reading list	*1. Marmarelis, V.Z., 2004, "Nonlinear Dynamic Modeling of Physiological System", John Wiley & Sons, Inc.* *2. Rideout, V.C., 1991, "Mathematical and Computer Modeling of Physiological Systems", Prentice-Hall Inc.*

	3. *Vaseghi, S.V., 2008, "Advanced Digital Signal Processing and Noise Reduction, Fourth Edition", John Wiley & Sons, Inc.* 4. *McSharry, P.E., Clifford, G.D., Tarassenko, L., and Smith, L.A., 2003, "A Dynamical Model for Generating Synthetic Electrocardiogram Signals", IEEE Transaction on Biomedical Engineering, Vol. 50, No. 3, pp. 289-294.*