



Subject Module
 Department of Agrotechnology
 Faculty of Agriculture
 University of Islam Malang

Module Handbook

Module Title	Agricultural Physic
Module Level, if available	Undergraduate Study Program of Agrotechnology
Subject Code	MKW 60603
Headings, if available	-
Subject (MK)	Agricultural Physic
Semester	I
Subject Coordinator	Dr.Ir. Anis Sholihah, MP
Teaching Team	-
Language of instruction	Indonesian language/English
Linkages with the Curriculum	Study Program : Agrotechnology Specialization: Agrotechnology Type: Compulsory/elective
Learning Methods and Duration	<ol style="list-style-type: none"> 1. Lecture: 100 minutes/meeting (14 meetings) 2. Practicum 100 minutes/meeting (7 meetings) 3. Structured Assignments/individual and group Assignments presentation
Student Study Load	<ol style="list-style-type: none"> 1. Lecture: 100 minutes/meeting (14 meetings) 2. Practicum: 170 minutes/meeting (14 meetings) 3. Structured Assignments/quiz/group presentation 4. Attendance: 75% of total attendance
Credit Weight	3 credits or 5.1 ECTS
Requirements for Passing the Subject	<ul style="list-style-type: none"> • Attendance >75% • The final score of all the components of the learning evaluation >44 <p>The final score component:</p> <ul style="list-style-type: none"> • 20% Midterm Exam • 20% Final Exam • 30% Practicum • 20% Structured Assignments (individual and group) • 10% Presence
Prerequisite Subjects	Agricultural Physic
Learning Outcomes	<p>The expected learning outcomes are:</p> <ol style="list-style-type: none"> 1. Having a good and deep knowledge in the disciplines of basic agricultural sciences that support Agro-technology field (ILO 1) 2. Having the ability to identify and formulate problems that arise in the field of Agro-technology and science-related fields (ILO 3) 3. Having work independently and in teams, and use various methods of communication (ILO 9)

<p>Learning Content</p>	<p>After completing this Subject students are able to:</p> <ol style="list-style-type: none"> 1. Mastering the importance of measurement, quantities, systems of units and their conversions, vector and scalar basis to explain particle movements and their application in agriculture (movement of water, nutrients and other substances) both horizontally and horizontally 2. Review the concept of particle movement in one & two dimensions and its application in agriculture as well as the work and energy involved in the concept of movement and the laws involved in it 3. Apply and analyze the basic principles and concepts of fluid mechanics, gas kinetic theory and existing processes and applicable laws to solve problems related to agriculture 4. Mastering knowledge about heat and thermal energy, temperature, flow, electrostatics, light and electrostatic waves in a comprehensive and in-depth manner and can develop and apply them to study more developed agricultural fields <p>The topics include:</p> <ol style="list-style-type: none"> 1. Introduction 2. Scalars and vectors 3. Movement in one dimension 4. Movement in two dimensions 5. Particle dynamics 6. Effort and energy 7. Fluid mechanics: fluid statics & fluid dynamics 8. Temperature, heat / heat & heat transfer 9. Thermodynamics I & II 10. Electrostatics 11. Optics & light 12. Electromagnetic waves: light waves
	<p>Examination requirements: A minimum of 75 % attendance to attend the final exam Forms of examination: Essay</p>
<p>Learning Media</p>	<p>Projector and screen, Zoom application, LMS of UNISMA (Daring UNISMA), e-book, WA Group</p>
<p>References</p>	<p>Main References :</p> <ol style="list-style-type: none"> 1. Sears, F.W. and M.W. Zemansky (terjemahan). 1993. Fisika Untuk Universitas I & II. Bina Cipta Bandung. 2. G. S. Campbell dan J. M. Norman, An Introduction to Environmental Biophysics, Siproinger Verlag New York Inc 1997 2. J. 3. F. Gabriel, Fisika Lingkungan, Hipokretes Jakarta 2001 <p>Supporting References :</p> <ol style="list-style-type: none"> 1. Furoidah, I. 1999. Fisika Dasar I. PT. Gramedia. Pustaka Utama. Jakarta. 2. Haliday, David & Robert Resnick (terjemahan). 1987. Fisika Jilid I. Edisi ke 3. Erlangga. Jakarta. 3. Sutrisno. 1988. Fisika Dasar I : Mekanika. ITB. Bandung 4. Djoniputro, B.D. (1985). Teori Ketidakpastian. Bandung: ITB. 5. Sutrisno. (1986). Seri Fisika Dasar: Listrik, Magnet, dan termofisika. Bandung: ITB. 6. Link https://youtube.com untuk video-video pembelajaran 7. Link https://googlescholar.com untuk artikel-artikel jurnal dan buku elektronik