

Module designation	<i>Soil Science (AGB 102)</i>
Semester(s) in which the module is taught	<i>2<sup>nd</sup> semester</i>
Person responsible for the module	<i>Yusnizar</i>
Language	<i>English</i>
Relation to curriculum	<i>Compulsory module</i>
Teaching methods	<i>lecture, lesson, case, practical work, seminar.</i>
Workload	<ul style="list-style-type: none"> <li>▪ <i>100 minutes of lecture and discussion per week</i></li> <li>▪ <i>120 minutes of structured tasks per week</i></li> <li>▪ <i>190 minutes of independent activity per week</i></li> <li>▪ <i>100 minutes of laboratory work</i></li> </ul>
Credit points	<i>3 (lesson 2 and lab works 1)= 4.8 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li><i>1. Able to explain the concept of soil (pedological and edapological studies), soil-forming factors, and soil minerals.</i></li> <li><i>2. Able to explain the physical properties of soil, soil chemical properties, and soil biological properties as well as their role in various transformations of compounds in soil and soil fertility.</i></li> <li><i>3. Able to explain the fertility of the soil and the hara of crops, fertilizing and fertilizing as well as its relevance in increasing soil fertility.</i></li> <li><i>4. Able to explain soil and water conservation, soil taxonomy and classification, soil management, land survey and evaluation, the effect of pollution on soil and the environment.</i></li> </ol>
Content	<i>The Soil Science course provides knowledge about: soil concepts (pedology and edafology studies), soil formation, soil minerals, soil physical properties, soil chemical properties, soil biological properties, soil liming, soil fertility and plant nutrition, fertilizer and fertilization, soil and water conservation, soil taxonomy and classification, soil management, land survey and evaluation, the influence of pollution on soil and the environment.</i>
Exams and assessment formats	<i>Essay, case study</i>
Study and examination requirements	<i>10% attitude</i> <i>10% aktivitas partisipatif</i> <i>20% home work</i> <i>10% quizzes</i> <i>25% midterm examination</i> <i>25% final examination</i>
Reading list	<ol style="list-style-type: none"> <li><i>1. Arsyad, S. 2000. Konsevasi Tanah dan Air. IPB Press.</i></li> <li><i>2. Brady, N.C. 1985. The Nature and Properties of Soils.</i></li> <li><i>3. Djunaedi A. Rahim dan Mahfud Arifin. 2011. Klasifikasi Tanah di Indonesia. Pustaka Reka Cipta, Bandung.</i></li> <li><i>4. Forth, H.D. 1988. Soil Fertility and Fertilizer</i></li> <li><i>5. Hillel, D. 1987. Soil Physics, Academic Press, Inc.</i></li> <li><i>6. Kemas Ali Hanafiah. 2005. Dasar-dasar Ilmu Tanah. PT. Raja Grafindo Persada, Jakarta.</i></li> <li><i>7. Marschner, H. 1986. Mineral nutritions and higher plants. Academic Press Inc.</i></li> <li><i>8. Nurhayati Hakim. 1990. Dasar-dasar Ilmu Tanah. BKS Wilayah Barat. Unila Bandar Lampung.</i></li> <li><i>9. Nyakpa, M. Y. dan Hasinah HAR. 1983. Pupuk dan Pemupukan. Fakultas Pertanian Unsyiah.</i></li> <li><i>10. Paul, E. A and F. E. Clark. 1989. Soil Microbiology and Biochemistry. Academic Press. Inc</i></li> <li><i>11. Rayes, M.L. 2007. Metode Inventarisasi Sumberdaya Lahan . Andi Yogyakarta.</i></li> <li><i>12. Sarwono Hardjowigeno. 1992. Ilmu Tanah. PT. Medyatama Sarana Perkasa, Jakarta.</i></li> <li><i>13. Sufardi, G. 1987. Sifat dan Ciri Tanah. Institut Pertanian Bogor.</i></li> <li><i>14. White, R. E. 1987. Introduction to the principles and Practice of Soil Science.</i></li> </ol>

