Module designation	*Plant Genetics*
Semester(s) in which the module is taught	*3th*
Person responsible for the module	*Dr. Ir. Nyimas Sa'diyah, M.P.*
Language	*Indonesian language*
Relation to curriculum	Compulsory
Teaching methods	*Lectures (100 minutes)* *Practicum sessions (170 minutes)*
Workload (incl. contact hours, self-study hours)	*Contact hours : 14 weeks x 100 minutes* *Structured learning: 14 weeks x 120 minutes* *Independent study: 14 weeks x 120 minutes* *Practicum sessions: 14 weeks x 170 minutes*
Credit points	*3 (2-1) CP or 4.76 (ECTS)* *((14 weeks x 100 minutes) + (14 weeks x 120 minutes) +* *(14 weeks x 120 minutes) + (14 weeks x 170 minutes)) :* *60 minutes/hour* *= 119 hours : 25 study hours/ECTS* *= 4.76 (ECTS)*
Required and recommended prerequisites for joining the module	*- Completion of course: - Agricultural Biology*
Module objectives/intended learning outcomes	- *Students are able to apply the basic concepts and principles of cultivation technology and the development of sustainable agriculture technology* - *Students are able to identify, formulate, solve problems, and apply plant science, plant protection, soil science, socio-economic agriculture, and plant production engineering principles that are oriented towards good agricultural practices (GAP).*
Content	*Definition of variation, modification, gene and chromosome mutation, Inheritance according to Mendel. The principle of segregation, dominance, recessive. The principle of free separation. Gene interaction, Probability and Inheritance of Traits. Link and crossing over, genetic code, chromosomal maps, Chromosomal abrasion and evolution.*
Examination forms	*oral presentation, essay*

Study and examination requirements	*Participants are evaluated based on their performance in class (lectures) (70%) and lab (practicum) (30%).* *Performance in theory (100%):* *Mid Exam (20%)* *Final Exam (20%)* *Assignments (40%)* *Class participation (10%)* *Individual quiz (10%)* *Performance in practicum (100%):* *Practicum exam (30%)* *Pre-test or post-test (10%)* *Experiment reports (60%)*
Reading list	1. *Crowder, L. V, 1997. Genetika Tumbuhan. Translated from Plant Genetics by Lilik kusdiati. Gajah Mada University Press. Yogyakarta. 499 pages.* 2. *Klug, S.W. 2006. Concepts of Genetics. Benjamin Cummnings; New York. 778 pages.* 3. *Stanfield, W.D. 1991. Genetika. Second Edition. Erlangga. Jakarta. 417 pages.* 4. *Gomez, K. A. and A. A. Gomez. 1995. Statistical procedures for Agriculture Research. An IRRI Book. John Wiley & Sons. Sixth Edition. New York. 688 pages.* 5. *Barcaccia G, L Baldoni, M A Mendes, E Albertini, F Pupilli, Andrea Mazzucato, S Zenoni, S V Coimbra, A Granell, D Zhang. 2020. Genetics and Genomics of Plant Reproduction for Crop Breeding. Frontiers Media SA.*