Module Descriptions

A **module** is a self-contained **learning unit** within a higher education program that includes thematically related courses and is assigned a **fixed number of credits**. It follows specific **learning objectives**, includes an **assessment component**, and contributes to achieving the qualifications of a degree program. In some countries, “modules” are also named “courses”.

Please provide a module description for each module. In addition to the compulsory and elective modules, this also includes credited internships and the final thesis.

Please summarize all module descriptions in one document (Module Handbook) and create a table of contents so that the modules can be found easily.

Module designation	*Cultivation Technology of Cereal Crops*
Semester(s) in which the module is taught	*5*
Person responsible for the module	*Dr. Ir. Muh. Riadi*
Language	*Bahasa Indonesia*
Relation to curriculum	*Compulsory ~~/ elective~~ / specialisation*
Teaching methods	*Face-to-face lectures and independent learning*
Workload (incl. contact hours, self-study hours)	1. *Lectures: 2 × 50 × 16 = 1,600 minutes (26.67 hrs)* 2. *Structured assignments: (total 2 × 60 × 16) = 1,920 minutes (32 hrs)* - *Individual assignments: 2 × 120 × 3 = 720 minutes (12 hrs)* - *Group assignments: 2 × 120 × 3 = 720 minutes (12 hrs)* - *Quiz: 2 × 15 × 8 = 240 minutes (4 hrs)* - *Discussion: 2 × 30 × 4 = 240 minutes (4 hrs)* 3. *Independent study: (total 2 × 60 × 16) = 1,920 minutes (32 hrs)* - *Accessing SIKOLA, participating in online discussion forums, reading materials, etc.* 4. *Practicum: (total: 1 × 170 × 16) = 2,720 minutes (45.33 hrs)* - *Field work: 1 × 170 × 16 = 2,720 minutes (45.33 hrs)*
Credit points	*3 credits equal to 4.86 ECTS*
Required and recommended prerequisites for joining the module	-

Module objectives/intended learning outcomes	*In terms of knowledge:* - *Student is able to identify and explain the differences among various cereal crop species.* - *Student is able to explain the basic principles of integrated crop management (ICM) for cereal crops.* - *Student is able to explain the basic components of Integrated Crop Management (ICM) for cereal crops.* - *Student is able to explain the optional components of Integrated Crop Management (ICM) for cereal crops.*
Content	1. *Course Orientation and Learning Contract* 2. *Cereal Crops: Types, Potential, Development Prospects, and Utilization* 3. *Wheat: Taxonomy, Morphology, Growth Stages, and Growth Requirements* 4. *Wheat: Basic Components of Integrated Crop Management (ICM)* 5. *Wheat: Optional Components of Integrated Crop Management (ICM)* 6. *Sorghum: Taxonomy, Morphology, Growth Stages, and Growth Requirements* 7. *Sorghum: Basic Components of Integrated Crop Management (ICM)* 8. *Sorghum: Optional Components of Integrated Crop Management (ICM)* 9. *Foxtail Millet (Setaria italica): Taxonomy, Morphology, Growth Stages, and Growth Requirements* 10. *Foxtail Millet: Basic Components of Integrated Crop Management (ICM)* 11. *Foxtail Millet: Optional Components of Integrated Crop Management (ICM)* 12. *Job's Tears (Coix lacryma-jobi): Taxonomy, Morphology, Growth Stages, and Growth Requirements* 13. *Job's Tears: Basic Components of Integrated Crop Management (ICM)* 14. *Job's Tears: Optional Components of Integrated Crop Management (ICM)*
Examination forms	*Quiz, individual assignment, group assignment, discussion*
Study and examination requirements	*To successfully pass the module, students must attend at least 80% of the classes, complete all assignments and exams, and obtain a final grade of at least 45%* (minimum passing grade: D).

Reading list	1. *Anonymous. (2004). Panduan Karakterisasi Tanaman Pangan: Jagung dan Sorgum. Departemen Pertanian, Badan Penelitian dan Pengembangan Pertanian, Komisi Nasional Plasma Nutfah, Jakarta, Indonesia.* 2. *Anonymous. (2008). Bahan Publikasi Pengembangan Gandum. Direktorat Jenderal Tanaman Pangan, Direktorat Budidaya Serealia, Jakarta, Indonesia.* 3. *Anonymous. (2013). Buku Teknologi Budidaya Sorgum dan Gandum. Kementerian Pertanian, Direktorat Jenderal Tanaman Pangan, Direktorat Budidaya Serealia, Jakarta, Indonesia.* 4. *Anonymous. (2013). Sorgum: Inovasi Teknologi dan Pengembangan. Edited by Sumarno, D. S. Darmadjati, Mahyuddin Syam, and Hermanto. IAARD Press, Badan Penelitian dan Pengembangan Pertanian, Jakarta, Indonesia.* 5. *Anonymous. (2006). Genome Mapping and Molecular Breeding in Plants: Cereals and Millets. Edited by C. Kole. Springer-Verlag, Berlin Heidelberg, New York, USA.* 6. *Anonymous. (2009). Handbook of Plant Breeding: Cereals. Edited by M. J. Carena. Springer Science + Business Media, LLC., USA.* 7. *Illahi, A. K., Yusniwati, and E. Swasti. (2021). Exploration and characterization of Job's tears (Coix lacryma-jobi L.) in Limapuluh Kota Regency. Lumbung, 20(1), Article 245. https://doi.org/10.32530/lumbung.v20i1.245* 8. *Patel, B., G. Patel, S. Shah, and S. Parmar. (2017). A review: Coix lacryma-jobi L. Research Journal of Pharmacognosy and Phytochemistry, 9(4), 248–252.* 9. *Moenandir, J. (2004). Prinsip-Prinsip Utama Cara Menyukseskan Produksi Pertanian: Dasar-Dasar Budidaya Pertanian. Fakultas Pertanian, Universitas Brawijaya, Malang, Indonesia.*