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| Module designation | *Agricultural Biotechnology* |
| Semester(s) in which the module is taught | *6th* |
| Person responsible for the module | *Fitri Yelli, S.P., M.Si., Ph.D* |
| Language | *Indonesian language* |
| Relation to curriculum | *Compulsory* |
| Teaching methods | *Lectures (100 minutes)*<br>*Practicum sessions (170 minutes)* |
| Workload (incl. contact hours, self-study hours) | *Contact hours : 14 weeks x 100 minutes*<br>*Structured learning: 14 weeks x 120 minutes*<br>*Independent study: 14 weeks x 120 minutes*<br>*Practicum sessions: 14 weeks x 170 minutes* |
| Credit points | *3 (2-1) CP or 4.76 (ECTS)*<br>*((14 weeks x 100 minutes) + (14 weeks x 120 minutes) +*<br>*(14 weeks x 120 minutes) + (14 weeks x 170 minutes)) :*<br>*60 minutes/hour*<br>*= 119 hours : 25 study hours/ECTS*<br>*= 4.76 (ECTS)* |
| Required and recommended prerequisites for joining the module | - |
| Module objectives/intended learning outcomes | - *Students are able to have devotion to Almighty God, demonstrate a religious attitude, and uphold human values in carrying out their duties based on religion, morals, and ethics*<br>- *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)*<br>- *Students are able to plan, design, implement and develop plant production with the latest and environmentally friendly technology creatively and innovatively* |
| Content | *Definition of biotechnology, modern vs traditional biotechnology, benefits biotechnology in agriculture, Plant Genetic Engineering, Genetic Transformation, Tissue culture, biofertilizer, biopesticides, fermentation, Plant Biotechnology Product Regulation* |
| Examination forms | *oral presentation, essay* |

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| Study and examination requirements | *Participants are evaluated based on their performance in class (lectures) (70%) and lab (practicum) (30%).*<br><br>*Performance in theory (100%):*<br>*Mid Exam (20%)*<br>*Final Exam (20%)*<br>*Assignments (40%)*<br>*Class participation (10%)*<br>*Individual quiz (10%)*<br><br>*Performance in practicum (100%):*<br>*Practicum exam (30%)*<br>*Pre-test or post-test (10%)*<br>*Experiment reports (60%)* |
| Reading list | 1. *Hee-Jong Koh • Suk-Yoon Kwon Michael Thomson. 2015. Current Technologies in Plant Molecular Breeding- A Guide Book of Plant Molecular Breeding for Researchers Springer. 360 pages*<br>2. *Q.Y. Shu, B.P.Forster, H.Nakagawa. 2011. Plant Mutation Breeding and Biotechnology. International Atomic Energy Agency (IAEA). 595 pages*<br>3. *Utomo. S.D. 2012. Pemuliaan Tanaman Menggunakan Rekayasa Genetik. Lembaga Penelitian Universitas Lampung. 144 pages.*<br>4. *Bir Bahadur · Manchikatla Venkat Rajam Leela Sahijram · K.V. Krishnamurthy. 2015. Plant Biology and Biotechnology. Volume II. Springer India. 780 pages*<br>5. *Karl-Hermann Neumann • Ashwani Kumar Jafargholi Imani. 2009. Plant Cell and Tissue Culture - A Tool in Biotechnology. Basic and Application. Springer Germany. 341 pages* |