|  |  |
| --- | --- |
| Module designation | *Precision Agriculture* |
| Module level, if applicable | *Bachelor* |
| Code, if applicable | *PNT20192039* |
| Subtitle, if applicable |  |
| Courses, if applicable | 1. *Introduction* 2. *Land Heterogeneity* 3. *Sensing by Electromagnetic Radiation* 4. *Sensing of Natural Soil Properties* 5. *Surface Sensing in Laboratories* 6. *Sensing of Crop Properties* 7. *Site-Specific Fertilizing* 8. *Fertilizing Based on Reflectance of Soils* 9. *Precision nitrogen management* 10. *Precision agriculture: a challenge for crop nutrition management* 11. *Future Directions of Precision Agriculture* |
| Semester(s) in which the module is taught | *Even* |
| Person responsible for the module | *Dr. Ir. Benito H. Purwanto, MS., M. Agr. Sc.* |
| Lecturer | *Dr. Ir. Benito H. Purwanto, MS., M. Agr. Sc.*  *Dr. Ir. Rudi Hari Murti, SP, MP.* |
| Language | *Bahasa/Indonesian language* |
| Relation to curriculum | *Elective* |
| Type of teaching, contact hours | *Lecture, practical, discussion* |
| Workload | *2/0 SKS or 3,02/0 ECTS* |
| Credit points |  |
| Requirements according to the examination regulations | *Presence must be 70% of all meetings*  *Has to accomplished all the assignments* |
| Recommended prerequisites | *-* |
| Module objectives/intended learning outcomes | *Students can explain land heterogeneity and its recognition using sensing with electromagnetic radiation, sensing the natural properties of the soil, and sensing the properties of plants.*  *Students can arrange fertilization recommendations based on the principle of site-specific fertilizing for various types of soil and plants.*  *Students able to explain the precise management of nutrients in various types of soil and plants.* |
| Content | 1. *Introduction* 2. *Land Heterogeneity* 3. *Sensing by Electromagnetic Radiation* 4. *Sensing of Natural Soil Properties* 5. *Surface Sensing in Laboratories* 6. *Sensing of Crop Properties* 7. *Site-Specific Fertilizing* 8. *Fertilizing Based on Reflectance of Soils* 9. *Precision nitrogen management* 10. *Precision agriculture: a challenge for crop nutrition management* 11. *Future Directions of Precision Agriculture* |
| Study and examination  requirements and forms of examination | *Assesment Presentation/UTS/UAS* |
| Media employed | *Text, Presentation, Visual & Audio Web.* |
| Reading list | 1. *Heege, Hermann J. (Editor). 2013. Precision in Crop Farming: Site Specific Concepts and Sensing Methods: Applications and Results. Springer. Dordrecht. 361p* 2. *Stafford, John V. (Editor). 2013. Precision agriculture ’13. Wageningen Academic Publishers. The Netherlands.* |