|  |  |
| --- | --- |
| 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 examinationrequirements 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.*
 |