

<b>Module Name</b>	<b>Smart and Precision Agriculture</b>
<b>Module Level, if applicable</b>	Advance
<b>Code if Applicable</b>	0420206237
<b>Subtitle, if applicable</b>	-
<b>Courses, if applicable</b>	0420206237
<b>Semester(s) in which the module is taught</b>	5
<b>Person responsible for the module</b>	Dr. Ir Muhidin MP
<b>Lecturer</b>	Dr. Ir Muhidin MP
<b>Language</b>	Indonesian
<b>Relation to curriculum</b>	Compulsory Courses for undergraduate program in Department of Agrotechnology, Faculty of Agriculture and Animal Science.
<b>Type of teaching, contact hours</b>	Lecture, Tutorial, Independent Learning, Lab Work
<b>Workload</b>	<ul style="list-style-type: none"> <li>• Lecture : 2 sks × 50 minutes × 16 weeks</li> <li>• Tutorial : 2 sks × 60 minutes × 16 weeks</li> <li>• Independent Learning 2 sks × 60 minutes × 16 weeks</li> <li>• Lab Work: 1 sks × 170 minutes × 16 weeks</li> </ul>
<b>Credit points</b>	SKS 3 SCH x (1.5) = 4.5 ECTS
<b>Requirements according to the examination regulations</b>	<ol style="list-style-type: none"> <li>1. Registered in this course</li> <li>2. Minimum 80% attendance in this course</li> </ol>
<b>Recommended prerequisites</b>	No prerequisites
<b>Module Objectives (Intended learning outcomes)</b>	<p>On successful completion in this course, student should be able to:</p> <ul style="list-style-type: none"> <li>• Understand the Introduction to Smart and Precision Agriculture, Sensors and Monitoring in Precision Agriculture, Utilizing Drones in Precision Agriculture, Smart Irrigation Systems and Water Management, Challenges and Opportunities in Smart and Precision Agriculture to face climate change</li> </ul>
<b>Module Content</b>	This course explains able about the understanding of Smart and Precision Agriculture, Sensors and Monitoring in Precision Agriculture, Utilizing Drones in Precision Agriculture, Smart Irrigation Systems and Water Management, Challenges and Opportunities in Smart and Precision Agriculture to face climate change
<b>Study and examination requirements and forms of examination</b>	<p><b>Cognitive:</b> Midterm exam, Final exam, Quizzes, Assignments</p> <p><b>Psychomotor:</b> Practice</p> <p><b>Affective:</b> Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.</p>
<b>Media employed</b>	Classical teaching tools with white board and power point presentation
<b>Recommended Literature</b>	<p>For Class</p> <p>A. Compulsory</p> <p>- Khosla, R., &amp; Fulton, J. L. (2016). Precision Agriculture: Principles and Applications.</p>

- Zhang, Q., Alchanatis, V., & Tang, L. (Eds.). (2017). Precision Agriculture Technology for Crop Farming.
- Anon. (2019). Precision Agriculture Basics.
- Mather, P. M., & Black, R. A. S. (2017). Remote Sensing Handbook for Tropical Coastal Management.
- Loewen, J. (2018). Agricultural Drones: A Peaceful Pursuit.
- Wang, D., & Stahl, K. (Eds.). (2020). Robotic Agriculture.
- Mahapatra, M. K., & Singh, S. K. (Eds.). (2019). Smart Water Management in Agriculture.
- Oweis, T., Oliveira, L. F. G. de, & Heng, L. (Eds.). (2018). Irrigation Management in Developing Countries: Current Issues and Strategies.
- Antle, J. M., & Capalbo, S. M. (Eds.). (2018). The Economics of Precision Agriculture.
- OECD Publishing. (2019). The Role of Governments in Promoting Smart Agriculture.

**Date of Last Amendment**

22<sup>nd</sup> August 2022