

# 2023 MODULE DESCRIPTION

BACHELOR PROGRAM  
AGRICULTURAL ENGINEERING  
FACULTY OF AGRICULTURE  
HASANUDDIN UNIVERSITY  
2023



# Agricultural Product Processing Technology and Engineering Practicum

## Semester 4

Module designation	<i>Agricultural Product Processing Technology and Engineering Practicum</i>
Semester(s) in which the module is taught	<i>IV</i>
Person responsible for the module	<i>Dr.rer.nat. Olly Sanny Hutabarat., S.TP., M.Si Dr. Gemala Hardinasinta., S.TP</i>
Language	<i>Indonesia</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>Lab works</i>
Workload (incl. contact hours, self-study hours)	<i>(Estimated) Total workload: 1 SKS = 1.7 ECTS = 45.9 hours (1 ECTS around 27 hours) &gt; Laboratory session = 12 hours &gt; Lab report = 30 hours &gt; Virtual experiment = 1 hours &gt; Final examination = 2.5 hours</i>
Credit points	<i>1 SKS = 1.7 ECTS</i>
Required and recommended prerequisites for joining the module	<i>Heat transfer and thermodynamics course Heat transfer and thermodynamics practicum</i>
Module objectives/intended learning outcomes	<i>ILO 3: Apply knowledge of mathematics, sciences, and engineering principles in agricultural fields; ILO 4: Use quantitative analysis, information technology and critical thinking in agricultural engineering profession ILO 5: Use techniques, skills, and modern tools necessary for agricultural engineering practices; ILO 6: Design simple equipment, components, or processes needed in agricultural engineering operations ILO 7: Manage and utilize agricultural resources effectively, efficiently, and sustainably</i>
Content	<i>The topics studied in this course include psychrometrics and air mixing, drying, cooling, storage and handling of fruits. In addition, this course also explains the thermal properties, rheological properties, optical properties, electrical properties, thermodynamic properties, texture and mechanical properties, and flow properties of grain products.</i>
Examination forms	<i>Writing and oral exam</i>
Study and examination requirements	<i>Completion of all laboratory reports</i>
Reading list	<ol style="list-style-type: none"> <li><i>1. Ignacio Arana: Physical Properties of Foods: Novel Measurement Techniques and Applications. ISBN: 978-1-4398-3537-1 (eBook - PDF).</i></li> <li><i>2. Jiri Blahovec and Miroslav Kutilek: Physical methods in agriculture: Approach to precision and quality. ISBN: 978-1-4615-0085-8 (eBook)</i></li> <li><i>3. Agricultural Process Engineering</i></li> <li><i>4. CIGR Handbook Volume 4: Agro-Processing Engineering</i></li> <li><i>5. Postharvest Handling: A Systems Approach</i></li> </ol>