



Subject Module
Department of Agribusiness
Faculty of Agriculture
University of Islam Malang

Module Handbook

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| Title Module | Production and Operations Management in Agribusiness |
| Module Level, if available | Undergraduate, Study Program of Agribusiness |
| CourseCode | MKW60729 |
| Title, if available | - |
| Course (MK) | Production and Operations Management in Agribusiness |
| Semester | 5 |
| Course Coordinator | Dr. Dwi Susilowati,S.P.,M.P. |
| Teaching Team | - |
| Instruction language | Indonesian Language/English |
| Linkage to Curriculum | Study Program: Agribusiness Specialization: Agribusiness Type: Compulsory/ Elective |
| Method and Duration of Learning | <ol style="list-style-type: none"> 1. Lecture: 100 minutes / meeting (14 meetings) 2. Practicum: 170 minutes / meeting (8 meetings) 3. Structured assignments / individual and group assignments |
| Study Load Student | <ol style="list-style-type: none"> 1. Lecture: 100 minutes / meeting (14 meetings) 2. Practicum 170 minutes / meeting (8 meetings) 3. Structured assignments / quizzes / group presentations 4. Attendance: 75% of total attendance |
| Weight Credit | 3 Credits or 5.1 ECTS |
| Requirements to Pass the Course | <ul style="list-style-type: none"> • Attendance $\geq 75\%$ • Final score of all components of learning evaluation ≥ 50 Final Score Components: <ul style="list-style-type: none"> • 20% Mid-Semester Exam • 20% Final Examination • 30% Prakticum • 20% Structured Tasks (individual and group) • 10% Attendance |
| Course Prerequisites | - |
| Learning outcomes | The expected learning outcomes are: <ol style="list-style-type: none"> 1. Able to respond to problems regarding entrepreneurship, agribusiness, and green food (ILO 1) 2. Able to analyze the rules and principles of agribusinesssciences, social sciences, economics, and agricultural techniques as the basic for innovative agribusiness disciplines(ILO 2) 3. Able to evaluate projects in accordance with the techniques, methods, contrains, interpret data, and concludeit (ILO 6) 4. Able to work efficiently, independently and teams work using a variety of methods to communicate effectively with in the scientific community and society(ILO 9) 5. Behave in accordance with the code of ethics and |

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| | <p>responsibilities of the agribusiness entrepreneur profession including marketing management, acquisition project management, human resource management and control (ILO 10)</p> |
| <p>Content Learning</p> | <p>After completing this course students can:</p> <ol style="list-style-type: none"> 1. Able to conceptualize production management and operations in agribusiness and production process strategies and operations 2. Able to make demand forecasting and product design 3. Able to control JIT manufacturing, manpower management, measurement and performance improvement, Material Requirement Planning (MRP) 4. Able to determine the location and layout of the factory location, layout of factory facilities 5. Able to conceptualize production capacity planning, production resource requirements and control inventory, quality control and Supply Chain Management (SCM) <p>The topics include:</p> <ol style="list-style-type: none"> 1. Definition and Concept of production and operations management functions: <ul style="list-style-type: none"> • Understanding and concepts of production and operations management in agribusiness • Scope of production and operations management in agribusiness 2. Strategy Production process, operation: <ul style="list-style-type: none"> • The concept of the production management function of the operation of goods and services in agribusiness companies • Production and operations management strategies in agribusiness companies 3. Forecasting demand: <ul style="list-style-type: none"> • Definition and importance of the role of demand forecasting. • Forecasting conditions and factors affecting forecasting results. • Types of forecasting and use of forecasting results. • Forecasting accuracy measures and quantitative forecasting methods 4. Product design: <ul style="list-style-type: none"> • Understanding and importance of the role of product design and process design. • Preparation of plans for the production of goods/services. • Research and Development (R&D) of goods/services. • Product development with new technology. • New product introduction strategy 5. Production capacity planning: <ul style="list-style-type: none"> • Understanding of production/operational capacity planning. • Type of production capacity. • Type of production/operational capacity planning. • Economies of scale dan diseconomies of scale • Determination of production capacity by BEP analysis. • Determination of production capacity with Learning Curve 6. Inventory Control: |

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| | <ul style="list-style-type: none"> • Understanding of inventory and its function in production management. • ABC classification in planning raw material/equipment inventory. • Inventory models • Lead-time, buffer stock, dan re-order point. • Inventory valuation method. 7. JIT Manufacturing: <ul style="list-style-type: none"> • Just In Time (JIT) Concept • Just In Time(JIT) in the goods production sector • Just In Time(JIT) in the service sector 8. Quality Control: <ul style="list-style-type: none"> • Definition of quality and quality control strategies. • The development of modern quality control and quality control management. • TQC and Six Sigma • Quality control methods: Inspection, SQC, process control, and process capability. 9. Determination of production location: <ul style="list-style-type: none"> • The importance of choosing a factory location or place of business. • Factors considered in the selection of factory locations and factory sites. • Factory locating method 10. Layout of production facilities: <ul style="list-style-type: none"> • Design of plant site lay-outs (plant sites). • Lay-out design of equipment/machinery in the factory. • The basic pattern and method of determining the lay-out of equipment/machinery in the factory. 11. Planning for production resource requirements: <ul style="list-style-type: none"> • Human Resources Strategy for Competitive Advantage • Manpower Planning • Job Design • Labor Standards 12. Manpower management, measurement and improvement of performance: <ul style="list-style-type: none"> • Definition of labor management and its implementation. • Principles of labor management. • Labor and organizational management approaches • Manpower management Towards a workforce philosophy 13. Supply Chain Management (SCM): <ul style="list-style-type: none"> • Definition and role of SCM. • Supply chain strategy and design. • Supply chain management. • Outsourcing. • Logistics management and e-procurement design. • Effective and efficient supply chain. • Supply chain performance measurement 14. Material Requirements Planning(MRP): <ul style="list-style-type: none"> • Definition and objectives of MRP. • MRP components. • MRP process. • Lot sizing: Lot for Lot (LFL), Part Period Balancing (PPB), Period Order Quantity (POQ). |
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| | <ul style="list-style-type: none"> • Pegging. • Rough-Cut Capacity Planning (RCCP) |
| Test Terms and Forms | <p>Exam Requirements: Minimum 75% attendance to attend the final exam</p> <p>Test Form: Essay</p> |
| Learning Media | Projector and screen, Zoom application, Google Classroom, e-book, WA Group, Learning Management System (LMS UNISMA) |
| Reference | <p>Main Reference:</p> <ol style="list-style-type: none"> 1. Elwood S. Buffa and Rakesh K. Sarin. <i>Modern Production/Operation Management</i>. John Wiley & Sons, Inc., 1998. 2. Heizer, Jay and Barry Render. <i>Operations Management: Sustainability and supply chain management</i>. Eleventh Edition. Pearson Education Ltd, 2014. 3. Hill, Alex and Terry Hill. <i>Operations Management</i>. 3-rd Edition. Palgrave Macmillan, 2012. 4. T Hani Handoko. <i>Fundamentals of Production and Operations Management</i>. BPFE-Yogyakarta, 2000. 5. https://www.youtube.com/watch?v=YVvPgYO6q8Y 6. https://www.youtube.com/watch?v=1eTnrexuho4 7. https://www.youtube.com/watch?v=YlQITD1T0SY <p>Supporting Reference:</p> <ol style="list-style-type: none"> 1. Slack, Nigel, Alistair Brandon-Jones, Robert Johnston. <i>Operations Management</i>. Pearson Education Ltd, 2016. 2. Steven, William. <i>Operations Management</i>. McGraw-Hill Publishing, 2011. |