# UNIVERSITY OF NORTH SUMATRA (USU)
# FACULTY OF AGRICULTURE
# Animal Husbandry Study Program

**Docume Code** (to follow

## SEMESTER LEARNING PLAN (RPS)

| COURSE (MK) | CODE | MK family | WEIGHT (credits) | SEMESTER | Date of Prepar |
|---|---|---|---|---|---|
| Robotics Mechanics of Farm Machinery | PTN3211 | Social | 3 | VI | November 20 |

| AUTHORIZATION/ATTESTATION | RPS Developer Lecturer | Approved Head of Study Program | Knowing Chairman of LINKUP USU |
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| | Dr. Lukman STP., M.Si<br>DR Riswanti<br>Sulastri, S.TP., M.Si | Dr. Ir. Ma'ruf Tafsin, M.Si., IPM. | Prof. Dr. Dwi Suryanto M.Sc. |

| Learning Outcomes | LO-PRODI Charged to MK | |
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| | LO01 | Able to apply logical, critical, systematic and innovative thinking through the approach and implementatio animal husbandry science and technology by applying the BINTANG character |
| | LO13 | Understanding the concept of identification, security with a multidisciplinary approach in the field of an husbandry science |
| | **Course Learning Outcomes (CLO)** | **CLO Weig** |
| | CLO0121: Able to explain logically and critically the objectives, benefits and types of robot mechanics related to the livestock sector in increasing the effectiveness and efficiency of livestock activities. | 19.23% |
| | CLO1316: Able to apply mechanical techniques for making robots in the livestock sector | 30.77% |
| | **End Capability of Each Learning Stage (Sub-CLO)** | |
| | Sub-CLO1 | After taking this lecture, students will be able to explain the introduction mechanics and robotics in animal husbandry |
| | Sub-CLO2 | After taking this lecture, students will be able to explain about force vectors |
| | Sub-CLO3 | After taking this lecture, students will be able to explain particle equilibrium |
| | Sub-CLO4 | After taking this lecture, students will be able to explain resultant system of forces |
| | Sub-CLO5 | After taking this lecture, students will be able to explain equilibrium of rigid bodies |
| | Sub-CLO6 | After taking this lecture, students will be able to explain structural analysis |

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| | Sub-CLO7 | After taking this lecture, students will be able to explain internal styles |
| | Sub-CLO8 | After taking this lecture, students will be able to explain friction |
| | Sub-CLO9 | After taking this course, students will be able to explain center of gravity, centroid and moment of inertia |
| | Sub-CLO10 | After taking this course, students will be able to explain actual work |
| | Sub-CLO11 | After taking this course, students will be able to explain particle kinematics |
| | Sub-CLO12 | After taking this course, students will be able to explain particle kinetics: work, energy, power |

| | ub-CLO1 | Sub-CLO2 | Sub-CLO3 | Sub-CLO4 | Sub-CLO5 | Sub-CLO6 | Sub-CLO7 | Sub-CLO8 | Sub-CLO9 | Sub-CLO10 | Sub-CLO11 | Sub-CLO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLO0121 | √ | √ | √ | | √ | | √ | √ | √ | √ | | |
| CLO1316 | | | √ | √ | √ | √ | | √ | | √ | √ | √ |

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| **Brief Course Description** | After completing this course, sixth semester Animal Husbandry Study Program students are able to analyze, evaluate and calc all types of problems related to engineering by applying the basics of engineering mechanics, namely statics and dynamics. |
| **Study Material:**<br><br>Learning Materials | **BK07** Application and development of animal husbandry science and technology<br><br>1. Introduction<br>2. Force vectors<br>3. Particle equilibrium<br>4. Resultant system of forces<br>5. Equilibrium of rigid bodies<br>6. Structural analysis<br>7. Definition of marketing channels<br>8. Pricing strategy<br>9. Center of gravity, centroid and moment of inertia<br>10. Actual work<br>11. Particle Kinematics<br>12. Particle Kinematics: Work, Energy, Power |
| **Library** | **Main:**<br>1. Hibbeler,R.C. 2004. Engineering Mechanics : Statics. Pearson Education International. Hibbeler,R.C. 2004. Engineering |

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| | 2. Mechanics : Dynamics. Pearson Education International. Meriem, J.L. & Kraige, L.G. 2000. Mekanika Teknik: Statika |
| | **Supporters:**<br>1. Erlangga. Jakarta. (Alih Bahasa oleh Mulia Tony, Univ. Indonesia) Meriem, J.L. & Kraige, L.G. 1993. Mekanika Teknik<br>2. Dinamika. Erlangga. Jakarta. (Alih Bahasa oleh Mulia Tony, Univ. Indonesia) |
| **Lecturer** | Dr. Lukman STP., M.Si<br>DR Riswanti<br>Sulastri, S.TP., M.Si |
| **Conditional Subjects** | - |

| | **End ability of each learning stage (Sub-CLO)** | **Assessment** | | **Form of Learning; Learning Methods; Student Assignment; [ Estimated Time ]** | | **Study Material (Learning Material)** | **Asses t We (%** |
|---|---|---|---|---|---|---|---|
| | | **Indicator** | **Criteria and Techniques** | | | | |
| **(1)** | **(2)** | **(3)** | **(4)** | **Asynchronous (5)** | **Synchronous (6)** | **(7)** | **(8** |
| 1 | Sub-CLO1:<br><br>After taking this course, students will be able to explain the basics of mechanics and robots in animal husbandry | 1. Explain the definition of mechanics and its relationship to statics<br>2. Explain the quantities<br>3. Explain Newton's Laws of Motion and Gravity<br>4. Explain the principles of using the SI unit system and standard procedures for numerical calculations | **Criteria:**<br>Essay and multiple choice assessment rubric<br><br>**Techniques:**<br>*Non-Test* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>1. Attendance<br>2. Download and read the Syllabus (RPS), Learning Implementation Plan (SAP), Course Agreement, and Learning Materials | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject:**<br>1. Introduction to statics<br>2. Basic quantities<br>3. Principles of using the international measurement system | Th<br>sub-C<br>will<br>*asses*<br>during<br>seme<br>examin<br>(UT<br><br>(CLO |

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| | | | | **Moda (*Learning Management System*):** class.usu.ac.id | | | |
| 2 | Sub-CLO 2:<br><br>After taking this course, students will be able to explain about force vectors | 1. Accuracy in explaining the difference between scalar and vector<br>2. b. Accuracy in performing mathematical operations on vectors<br>3. Accuracy in determining the magnitude and direction of Cartesian vectors, position vectors | **Criteria:**<br>Essay assessment rubric<br><br>**Techniques:**<br>*Test:*<br>Quiz | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>1. *Recording attendance*<br>2. *Completing quiz*<br><br>***Quiz 1:***<br>Quiz to measure student understanding of organizations and institutions in marketing<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject matter:**<br>1. Scalar and vector, vector operations<br>2. Addition of forces to coplanar planes<br>3. Cartesian vectors, position vectors, and dot products | Quiz 1: (CLO0 |
| 3 | Sub-CLO 3:<br><br>After taking this lecture, students will be able to explain particle equilibrium | 1. Accuracy in explaining the conditions for particle equilibrium | **Criteria:**<br>Paper assessment rubric<br><br>**Techniques:**<br>*Non-test:* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:** | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion | **Subject matter:**<br>1. Laws of particle equilibrium<br>2. Free body diagram of particles | Thi sub-C will *asses* during seme |

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| | | 2. Accuracy in explaining free body diagrams<br>3. Accuracy in explaining the application of particle equilibrium on springs, cables and pulleys | | *Self-Paced Learning*<br><br>**Activities:**<br>***1.*** *Recording attendance*<br>***2.*** *Completing assignment*<br>*3. Responding to the opening question*<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | **Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | 3. Particle equilibrium on springs, cables and pulleys | examin<br>(UT<br><br>(CLO<br>CLO1 |
| 4 | Sub-CLO 4:<br><br>After taking this lecture, students will be able to explain resultant system of forces | 1. Accuracy in explaining about the moment of force<br>2. Accuracy in explaining the moment of couple<br>3. Accuracy in explaining the resultant equivalent force and moment of couple<br>4. Accuracy in explaining the magnitude and location of the resultant force with distributed load | **Criteria:**<br>Use essay and multiple choice assessment rubrics<br><br>**Techniques:**<br>*Test:*<br>*Quiz* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>***1.*** *Recording attendance*<br>***2.*** *Completing assignment*<br>*3. Responding to the opening question*<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject matter:**<br>1. The magnitude of the direction of the moment of force in two and three-dimensional planes<br>2. The magnitude of the direction of the moment of the couple<br>3. The resultant of the equivalent force and the moment of the couple<br>4. The magnitude and location of the resultant force that | Qui<br>1.25<br><br>(CLO1 |

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| | | | | | | receives a distributed load | |
| 5 | Sub-CLO 5:<br><br>After taking this lecture, students will be able to explain the equilibrium of rigid bodies | 1. Accuracy in explaining the equilibrium equation for rigid objects<br>2. Accuracy in explaining the free body diagram for rigid objects<br>3. Accuracy in solving the problem of equilibrium of rigid objects in two dimensions | **Criteria:**<br>*Essay assessment rubric*<br><br>**Techniques:**<br>*Test:*<br>*Assignment* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br>**Activities:**<br>*1. Recording attendance*<br>*2. Completing assignment*<br><br>***Assignment:***<br>Resume a journal about the definition of a product<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject matter:**<br>1. Conditions for the equilibrium of a rigid body<br>2. Free body diagram for a rigid body<br>3. Equilibrium on a two-dimensional plane | Assign<br>: 2.5<br><br>(CLO<br>CLO1 |
| 6 | Sub-CLO 6:<br><br>After taking this lecture, students will be able to explain structural analysis | 1. Accuracy in explaining simple rods and examples of simple rod applications<br>2. Accuracy in analyzing simple rods | **Criteria:**<br>*Essay assessment rubric*<br><br>**Techniques:**<br>*Non-Test:* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning* | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:** | **Subject matter:**<br>1. Simple bar<br>2. Structural analysis method | Th<br>sub-C<br>will<br>*asses*<br>during<br>seme<br>examin<br>(UT<br><br>(CLO |

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| | | using the joint method<br>3. Accuracy in explaining rod analysis using the structure separation method | | **Activities:**<br>*1. Recording attendance*<br>*2. Completing assignment*<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | 1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | | |
| 7 | Sub-CLO 7:<br><br>After taking this lecture, students will be able to explain the Internal styles | 1. a. Accuracy in explaining the analysis to determine internal loads at specific locations of the structure<br>2. Accuracy in analyzing and explaining internal shear forces and moments | **Criteria:**<br>Use essay and multiple choice assessment rubrics<br><br>**Techniques:**<br>*Test:*<br>*Problem Based Learning* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>***1.*** *Recording attendance*<br>***2.*** *Completing assignment*<br>*3. Responding to the opening question*<br><br>***Problem-Based Learning:***<br>1. Divide the group evenly (lecturer divides)<br>2. Make a paper on the Internal styles maximum 15 | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject matter:**<br>1. Method of determining internal forces<br>2. Internal forces generated by the structure<br>**3.** Diagram equations | PBL:<br><br>(CLO |

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| | | | | pages from table of contents to bibliography TNR font size 12 spacing 1.5 sent in pdf form.<br><br>Presentation<br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | | | |
| 8 | MID SEMESTER EXAMINATION (MID SEMESTER EXAMINATION (UTS)) | | | | | | 20 |
| 9 | Sub-CLO 8:<br><br>After taking this lecture, students will be able to explain friction | 1. Accuracy in explaining the nature of friction<br>2. Accuracy in explaining the friction forces on bolts, bells and bearings<br>3. Accuracy in explaining the concept of rolling resistance | **Criteria:**<br>Paper assessment rubric<br><br>**Techniques:**<br>*Test:*<br>*Quiz* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>1. *Recording attendance*<br>2. *Completing assignment*<br>3. *Practicum*<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject matter:**<br>1. Friction properties<br>2. Friction force on bolts, flat belts, bearings<br>3. Rolling resistance | Quiz:<br><br>(CLO<br>CLO1 |

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| 10 | Sub-CLO 9:<br><br>After taking this course, students will be able to explain about center of gravity, centroid and moment of inertia | 1. Accuracy in explaining the determination of the center of gravity and point of mass for particle systems<br>2. Accuracy in explaining the determination of center of gravity, point of mass and centroid for objects<br>3. Accuracy in explaining the center of gravity and mass of composite objects<br>4. Accuracy in explaining the meaning of moment of inertia and calculating the moment of inertia for an area | **Criteria:**<br>Use essay and multiple choice assessment rubrics<br><br>**Techniques:**<br>*Non-Test:* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>1. *Recording attendance*<br>2. *Completing assignment*<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | **Subject matter:**<br>1. Center of gravity and point of mass for particle systems<br>2. Center of gravity, point of mass and centroid for objects<br>3. Composite objects<br>4. Moment of inertia for an area | Thi<br>ub-CL<br>be *asse*<br>during<br>semes<br>examin<br>(UA<br><br>(CLO |
| 11 | Sub-CLO 10: | 1. Accuracy in explaining the definition of | **Criteria:**<br>Essay assessment rubric | Independent Activities (KM) + Structured Assignments (PT) (1 | Face to face (TM) (1 week x 3 credits x 50 minutes) | **Subject matter:**<br>1. Definition of work and actual performance | Assign<br>5% |

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| | After taking this course, students will be able to explain the actual work | work and actual performance<br>2. Accuracy in explaining the actual working principle for particles and rigid bodies | **Techniques:**<br>*Test:*<br>*Assignment* | week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>*1. Recording attendance*<br>*2. Completing assignment*<br><br>***Assignment:***<br>Resume a journal about actual work<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | **Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | 2. Actual working principle for particles and rigid bodies | (CLO<br>CLO1 |
| 12-13 | Sub-CLO 11:<br><br>After taking this course, students will be able to explain about particle kinematics | 1. Accuracy in describing the movement of particles along straight lines and curves<br>2. Accuracy in solving straight line and curve movement problems<br>3. Accuracy in explaining the equation of motion for particle systems | **Criteria:**<br>Paper assessment rubric<br><br>**Techniques:**<br>*Test:*<br>*Problem Based Learning* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:**<br>*1. Recording attendance*<br>*2. Completing assignment*<br>*3. Practicum*<br><br>***Case Method:*** | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning<br>2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt | **Subject matter:**<br>1. Rectilinear kinematics<br>2. Curvilinear kinematics<br>3. Newton's laws on particle motion and force<br>4. Equations of motion for rectangular coordinates<br>5. Equations of motion for normal and | CM: 2<br><br>(CLO1 |

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| | | and rectangular coordinates<br>4. Accuracy in solving particle force movement problems in rectangular coordinates<br>5. Accuracy in solving particle motion equations in tangential and normal directions | | 1. Divide the group evenly (lecturer divides)<br>2. Make a paper on genital mutilation, problems caused by genital mutilation, and prevention in subsequent offspring, maximum 15 pages from table of contents to bibliography TNR font size 12 spacing 1.5 sent in pdf form.<br>3. Presentation<br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | 2. Zoom meeting / LCD<br>3. Text book | tangential coordinates | |
| 14-15 | Sub-CLO 12:<br><br>After taking this course, students will be able to explain Particle Kinetics: Work, Energy, Power | 1. Accuracy in explaining work due to variable force<br>2. Accuracy in explaining constant force, weight and spring force<br>3. Accuracy in solving work | **Criteria:**<br>Essay assessment rubric<br><br>**Techniques:**<br>*Non-Test:* | Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes)<br><br>**Learning Methods:**<br>*Self-Paced Learning*<br><br>**Activities:** | Face to face (TM) (1 week x 3 credits x 50 minutes)<br><br>**Learning Methods:**<br>1. Lecture<br>2. Discussion<br><br>**Activities:**<br>1. Online/offline learning | **Subject matter:**<br>1. Work caused by force<br>2. Principle of work and energy, power<br>3. Efficiency, conservation of force and energy | Th<br>sub-C<br>will<br>*asses*<br>during<br>seme<br>examir<br>(UA<br><br>(CLO1 |

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| | | problems caused by force<br>4. Accuracy in explaining the principle of work balance and kinetic energy<br>5. Accuracy in explaining friction work caused by sliding<br>6. Accuracy in explaining the principle of work and energy, power and efficiency<br>7. Accuracy in explaining conservation of force and conservation of energy in solving kinetic problems | | 1. *Recording attendance*<br>2. *Completing assignment*<br><br>***Assignment:***<br>Resume a journal about the purpose of research<br><br>**Moda (*Learning Management System*):**<br>class.usu.ac.id | 2. Class discussion<br>3. Take notes on learning materials<br><br>**Media:**<br>1. Slides/ ppt<br>2. Zoom meeting / LCD<br>3. Text book | | |
| **16** | FINAL SEMESTER EXAMINATION (FINAL SEMESTER EXAMINATION (UAS)) | | | | | | 20 |

**Assessment Design:**

| CLO Code and Percentage | Sub-CLO Code | Form of Evaluation | Percentage (%) | Total | Evaluation Implementation |
|---|---|---|---|---|---|
| CLO0121 | Sub-CLO1 | UTS | 5 | 55 | Week 8 |

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|---|---|---|---|---|---|
| | Sub-CLO2 | Quiz | 1.25 | | Week 2 |
| | Sub-CLO3 | UTS | 5 | | Week 8 |
| | Sub-CLO5 | Task | 1.25 | | Week 5 |
| | Sub-CLO7 | PBL | 30 | | Week 7 |
| | Sub-CLO8 | Quiz | 1.25 | | Week 9 |
| | Sub-CLO9 | UAS | 10 | | Week 16 |
| | Sub-CLO10 | Task | 1.25 | | Week 11 |
| CLO1316 | Sub-CLO3 | UTS | 5 | 45 | Week 3 |
| | Sub-CLO4 | Quiz | 1.25 | | Week 4 |
| | Sub-CLO5 | Task | 1.25 | | Week 5 |
| | Sub-CLO6 | UTS | 5 | | Week 8 |
| | Sub-CLO8 | Quiz | 1.25 | | Week 9 |
| | Sub-CLO10 | Task | 1.25 | | Week 11 |
| | Sub-CLO11 | CM | 20 | | Week 13 |
| | Sub-CLO12 | UAS | 10 | | Week 16 |
| TOTAL | | | 100 | 100 | |

**Assessment Plan:**

| Form of Evaluation | Sub-CLO | Assessment Instrument [Frequency] | | Bill (proof) | Assessment Weight (%) |
|---|---|---|---|---|---|
| | | Formative | Summative | | |
| **Quiz/question and answer** | Sub-CLO2, CLO4, and CLO8 | Assessment rubric [3 times] | - | Quiz answers uploaded to class.usu.ac.id | 5 |
| **Tasks** | Sub-CLO5 and Sub-CLO10 | Assessment rubric [2 times] | - | Assignments uploaded to class.usu.ac.id | 5 |
| **Problem-based Learning and Case Method** | Sub-CLO7 and Sub-CLO11 | - | Assessment rubric [2 times] | Logbook / worksheets / slides uploaded to class.usu.ac.id | 50 |
| **Written exam 1 mid semester examination (UTS)** | Sub-CLO1, CLO3 and Sub-CLO6 | - | Assessment rubric [1 time] | Written exam result sheet | 20 |
| **Written exam 2 final semester examination (UAS)** | Sub-CLO9 and Sub-CLO12 | - | Assessment rubric [1 time] | Written exam result sheet | 20 |
| | | | | **Total** | 100% |

**Explanation:**

a) Quiz 5%
During the semester there will be 2 quizzes held in class. Quizzes will be conducted through e-learning and are scheduled in advance. The material tested is announced by the lecturer and written in the RPS.

b) Assignment 5%
During the semester there will be 2 structured assignments. The assignments given are an effort to add insight by making a resume related to the material written in the RPS.

c) Problem Based Learning and Case Method 50%

During the semester there will be case methods, each student will make a paper and report on each case method in groups. Case method in this course is conducted 5 times. The papers that have been made will be presented by students. Students will be assessed according to their participation in the presentation and accuracy in the presentation, as well as their participation in the question and answer session when other groups present.

d) Mid Semester Examination (UTS) (mid-test) 15%
The midterm exam covers all the material that has been covered since the beginning of the semester until the 7th meeting both reading and lectures. This exam is conducted in class with multiple choice, short form, and essay questions.

e) Final Semester Examination (UAS) (final-test) 15%
The end-of-semester exam covers all the material that has been covered from the 9th to the 15th meeting, both readings and lectures. This exam is conducted in class with multiple choice, short form, and essay questions.

**ASSESSMENT RUBRIC**

**Quiz Scoring Rubric:**

Quiz consists of 5 essay questions done on a sheet of paper (done 2 times during 1 semester)

| Value per item | Criteria |
|---|---|
| 16-20 | Can answer the question correctly, the steps of working on the problem are correct, and completely correct. |
| 11-15 | The steps of working on the problem are correct, there are few mistakes |
| 6-10 | Most of the steps are correct, there are many errors |
| 0-5 | The steps of working on the problem are not correct, unable to solve the problem |

*Maximum score = 100 (5 questions x 20 points)

**Teaching Journal/Proposal/Report/Paper Assessment Rubric:**

| Assessment Criteria | 4<br>Very good | 3<br>Good | 2<br>Simply | 1<br>Less |
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|---|---|---|---|---|
| **Understanding of Learning Topics with Resumed Journals** | Understand the topic exactly once<br>(25) | Understand the topic<br>(20) | Does not fully and appropriately understand the topic<br>(15) | Not understanding the topic<br>(10) |
| **Contents** | Drafts show understanding participants integrate information that has been learned and/or assigned to read during lectures properly and appropriately.<br>(25) | Drafts demonstrate an understanding of the material covered and integrate some of the information that has been learned and/or assigned to read during lectures.<br>(20) | Drafts show an understanding of the material covered and only integrate<br>a small portion of the information that has been learned and/or assigned to read during the lecture.<br>(15) | Drafts show a lack of understanding of the material discussed so that it is not clear and does not integrate the material.<br>information that has been learned and/or assigned to read during lectures.<br>(10) |
| **Clarity of Writing** | All writing ideas are well and clearly conveyed.<br>(25) | Most of the ideas are well-written and clear.<br>(20) | Some of the ideas are well-written and clear.<br>(15) | The idea of the writing is not conveyed well and clearly.<br>(10) |
| **Language Clarity** | Uses foreign/Indonesian language well and correctly few grammatical and word choice errors that do not interfere with understanding.<br>(25) | Uses foreign/Indonesian language well and correctly with few grammatical and word choice errors that interfere with understanding.<br>(20) | Uses foreign/Indonesian language fairly well and correctly with some grammatical and word choice errors.<br>(15) | Does not use foreign/Indonesian language properly and correctly as the writing contains many grammatical and word choice errors.<br>(10) |
| **Total** | **81-100<br>(Excellent)** | **61-80<br>(Good enough)** | **41-60<br>(Enough)** | **0-40<br>(Less)** |

**Group Presentation Task Assessment Rubric:**

| **CATEGORIES** | **4<br>Very good** | **3<br>Good** | **2<br>Simply** | **1<br>Less** |
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| **Group Preparation** | The group is fully prepared and has optimized presentation exercises.<br><br>Mutual complementarity between group members with clear tasks for each group member.<br>(25) | The group seemed reasonably prepared but may need more practice presenting.<br><br>The responsibilities of each group member need to be identified.<br><br>(20) | The group made an effort to prepare but did not do any presentation preparation exercises.<br><br>Tasks and responsibilities are assigned and accepted without careful consideration.<br><br>(15) | The group seemed to have done no preparation at all for the presentation.<br><br>Tasks and responsibilities are assigned and accepted randomly.<br><br>(10) |
| **Presentation Organization** | The group presented the content clearly, logically, and systematically, through a cohesive introduction, main points, and conclusion.<br><br>The group used visual aids that effectively supported and reinforced the presentation.<br>(25) | The group presented the content logically and systematically, with an introduction, main idea and conclusion.<br><br>The group used visual aids that showed a link to the content of the presentation.<br>(20) | The group presented the content fairly logically and systematically, but it did not contain an introduction, main idea, or conclusion.<br><br>The group occasionally used visual aids that did not support the content of the presentation.<br>(15) | The group presented the content randomly without any introduction, main idea, or conclusion.<br><br>Groups using unsupportive visual aids or no visual aids at all.<br><br>(10) |
| **Task Achievement** | Each group member is able to demonstrate solid knowledge through their own exposure and elaboration, and deliver the part of the presentation that is assigned to them within the time allotted.<br>(25) | Each group member demonstrates good knowledge through their own exposure and elaboration but in less time than the time allocated to them.<br>(20) | Each group member demonstrated sufficient knowledge but failed to elaborate, and presented his or her part in only half the time allotted to him or her.<br>(15) | Each group member has no knowledge of the content and presents his/her section in less than half the time allocated to him/her.<br><br>(10) |
| **Mastery of Presentation Content** | Each group member demonstrates full understanding of the presentation topic. | Each group member demonstrated a good understanding of the presentation topic. | Each group member demonstrated a good understanding of some aspect of the topic. | Each group member did not seem to understand the presentation topic very well. |

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| | The main points presented are supported by evidence and critically evaluated.<br>(25) | Most of the main points are illustrated with relevant evidence.<br><br>(20) | Some illustrations are given, but not critically evaluated.<br>(15) | Some evidence was mentioned, but not integrated in the presentation or evaluated.<br>(10) |
| **Answers to Questions** | The group was able to correctly answer almost all the questions asked by the audience about their presentation topic.<br><br>(25) | The group was able to correctly answer most of the questions asked by the audience about the tropes of their presentation.<br><br>(20) | The group was able to correctly answer some of the questions the audience asked about their presentation topic.<br><br>(15) | The group was unable to answer the questions posed by the audience on the topic of their presentation appropriately.<br>(10) |
| **Communication Quality** | Group interaction with the audience shows interest and respect for the opinions of others. Responses support effective communication.<br>(25) | Group interaction with an audience shows interest and respect for the opinions of others. Responses generally support effective communication.<br>(20) | Some parts of the interaction in the discussion show interest and respect for others' opinions.<br><br>(15) | Interaction in the discussion shows disrespect for other people's opinions. Responses do not support effective communication.<br><br>(10) |
| **Total** | **81-100<br>(Excellent)** | **61-80<br>(Good enough)** | **41-60<br>(Enough)** | **0-40<br>(Less)** |

Source: Halimi, Sicily. "Assessment Rubric: Learning Plan Book MK Introduction to Teaching Methods", 2021
Maximum score: 25 x 6 components = 150 points: 1.5 = 100

**Essay Writing Exam Scoring Rubric:**

| **Assessment Criteria** | **4<br>Very good** | **3<br>Good** | **2<br>Simply** | **1<br>Less** |
|---|---|---|---|---|
| **Understanding of the Question** | Understand the question exactly once<br>(25) | Understand the question<br>(20) | Does not understand the question fully and correctly<br>(15) | Did not understand the question<br>(10) |

| | | | | |
|---|---|---|---|---|
| **Contents** | Answers show understanding participants integrate information that has been learned and/or assigned to read during lectures properly and appropriately. (25) | Answers demonstrate an understanding of the material in question and integrate some of the information learned and/or assigned to read during the lecture. (20) | Answers show a lack of understanding of the material in question and only integrate a small portion of the information that has been studied and/or assigned to read during the lecture. (15) | The answer shows a lack of understanding of the material in question, so it is not clear and does not integrate the material. information that has been learned and/or assigned to read during lectures. (10) |
| **Clarity of Writing** | All writing ideas are well and clearly conveyed. (25) | Most of the ideas are well-written and clear. (20) | Some of the ideas are well-written and clear. (15) | The idea of the writing is not conveyed well and clearly. (10) |
| **Language Clarity** | Uses foreign/Indonesian language well and correctly few grammatical and word choice errors that do not interfere with understanding. (25) | Uses foreign/Indonesian language well and correctly with few grammatical and word choice errors that interfere with understanding. (20) | Uses foreign/Indonesian language fairly well and correctly with some grammatical and word choice errors. (15) | Does not use foreign/Indonesian language properly and correctly as the writing contains many grammatical and word choice errors. (10) |
| **Total** | **81-100 (Excellent)** | **61-80 (Good enough)** | **41-60 (Enough)** | **0-40 (Less)** |

**Multiple Choice Exam Scoring Rubric:**

| Value per item | Criteria |
|---|---|
| 100/many questions | Can answer the question correctly |
| 0 | Answers are less precise / not in accordance with the answer key that has been provided |