MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
SRIWIJAYA UNIVERSITY
FACULTY OF TEACHER TRAINING AND EDUCATION
BACHELOR PROGRAM IN MATHEMATICS EDUCATION
Jl. Raya Palembang – Prabumulih Km.32, Indralaya Ogan Ilir 30662 Website:https://fkip.unsri.ac.id/mathedu/

Bachelor Program in Mathematics Education **MODULE HANDBOOK**

Module designation	:	Linear Programming / GMA3214
Semester	:	6th (Sixth) / Even
Person responsible for the module	:	Dr. Somakim, M.Pd. Dr. M. Hasbi Ramadhan, S.Pd., M.Si. Yovika Sukma, S.Pd., M.Pd.
Language	:	Indonesian
Relation to the curriculum	:	Study Program Compulsory Course
Teaching methods	:	Expository, Cooperative Learning, Case Based Learning, Project Based Learning
Workload	:	14 weeks per semester excluding mid-term and final exams. 1 credit (1 SKS) per week = 170 minutes, consisting of 50 minutes synchronous learning + 60 minutes asynchronous learning + 60 minutes systematic project. 170 minutes × 3 credits (3 SKS) = 510 minutes = 8.5 hours per week 14 weeks × 8.5 hours = 119 hours 119 hours: 25 hours (1 ECTS) = 4.8 ECTS
Credit points	:	3 SKS = 4.8 ECTS
Prerequisite's course(s)	:	-
Module objectives	:	After taking this course, students have the ability to: CO1: Demonstrate morals, ethics, and personality in carrying out duties as a mathematics educator. CO2: Using linear programming concepts to solve various problems related to linear optimization. CO 3: Apply logical, critical, systematic, and innovative thinking in context development or implementation of science and technology to create linear programs. CO 4: Solving linear programs using GeoGebra
Content	:	This course discusses: 1. Linear Programming with graphical methods 2. Graphs and probability of settlement events 3. Simplex method 4. Maximum pattern using the simplex method 5. Minimum pattern 6. Problem solving events 7. Dual relationships in linear programming

<table>
<tr><td></td><td></td><td>8. The postulates of duality
9. Transportation Method
10. Application of transportation methods
11. Minimization problem
12. Maximization
13. Sensitivity</td></tr>
<tr><td>Examination forms</td><td>:</td><td>Examinations in this course include:
1. Affective (actively participating during classroom processes and responsible for doing assignments)
2. Tasks
3. Mid-term test in the 8th meeting
4. The final test in the 16th meeting</td></tr>
<tr><td>Study and examination requirements</td><td>:</td><td>Students are expected to attend 80% of the total meetings in the modules.

Total Score = (Affective × 10%) + (Tasks × 20%) + (Mid-term test × 35%) + (Final test × 35%)

Explanation:
1. Affective
● Actively participating during classroom processes
● Responsibility in doing assignments
2. Tasks
● Completed tasks 1 and 2
3. Mid-term test
● The mid-term test was conducted in the 8th meeting with 150 minutes of working time.
● The mid-term test is a written exam (essay test)
4. Final test
● The final test was conducted in the 16th meeting, which had 150 minutes of working time.
● The final test is a written exam (essay test)

The total score is converted into a qualitative score,
<table>
<tr><th>Total Score</th><th>Grade</th><th>Description</th></tr>
<tr><td>86 – 100</td><td>A</td><td>Excellent</td></tr>
<tr><td>71 – 85.99</td><td>B</td><td>Good</td></tr>
<tr><td>56 – 70.99</td><td>C</td><td>Fair</td></tr>
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		<table><tr><td>41 – 55.99</td><td>D</td><td>Bad</td></tr><tr><td>0 – 40.99</td><td>E</td><td>Worse</td></tr></table> To successfully pass the module, the minimum grade required is C.
Reading lists	:	1. Rosen, Kenneth H. 1993. Elementary Number Theory and Its Applications. 3rd Ed. Reading, MA: Addison-Wesley Publishing Co. 2. Sukarman, Herry. 1993. Materi Pokok Teori Bilangan. Module 1 – 6. Jakarta: Penerbit Universitas Terbuka. 3. LeVeque, William J. 1996. Fundamentals of Number Theory. New York: Dover Publications, Inc.

Date of last amendments: January 2024

PLO	CO
1 Have good morals, ethics, and personality in completing tasks as a mathematics educator	CO 1: Demonstrate morals, ethics, and personality in carrying out duties as a mathematics educator.
4 Have knowledge of mathematical concepts in solving mathematical problems and supporting further studies	CO 2: Using linear programming concepts to solve various problems related to linear optimization.
7 Able to apply mathematical knowledge logically, critically, and systematically in solving problems	CO 3: Apply logical, critical, systematic, and innovative thinking in the context development or implementation of science and technology to create linear programs.
10 Able to utilize technology in solving mathematics and learning problems	CO 4: Solving linear programs using geogebra.