



UNIVERSITAS NEGERI YOGYAKARTA
FAKULTAS MIPA

RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/01
18 Februari 2011

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Explaining real number system
6. Achievement Indicator :
Students are able to explain real number system
7. Material : Real Number System
8. Lecture Activity : 1

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Explain briefly the course syllabus 2. Explain briefly about advantages of the course 3. Give apperception	15'	LCD, white/black board	[A]: 1– 15 [B]: 4– 6
2	Main Activities	1. Explain the real number system 2. Students work in group to discuss real number system 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
FAKULTAS MIPA

RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/02
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the solution of inequalities
6. Achievement Indicator :
Students are able to determine the solution of the inequalities
7. Material : Inequalities and absolute value
8. Lecture Activity : 2

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Motivate students by explaining the advantages of inequalities 2. Give apperception to the students	15'	LCD, white/black board	[A]: 15– 29 [B]: 6– 16
2	Main Activities	1. Briefly explain inequalities 2. Students work in group to discuss inequalities and the solution 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/03
 5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Explaining absolute value
6. Achievement Indicator :
 Students are able to explain absolute value concepts of linear, quadratics, polynomial and rational form.
7. Material : Inequalities and absolute value
8. Lecture Activity : 3

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none"> 1. Motivate students by explaining the advantages of absolute value concept 2. Give apperception 	15'	LCD, white/black board	[A]: 15– 29 [B]: 6– 16
2	Main Activities	<ol style="list-style-type: none"> 1. Explain briefly the absolute value concept 2. Students work in group to discuss absolute value concept 3. Students present the discussion results 4. Do exercise and discuss the results 	75'		
3	Closing Activity	<ol style="list-style-type: none"> 1. Conclude the entire materials 2. Give tasks 	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
 [B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/04
 5 September 2008

- 1. Faculty /Study Program : MIPA/Mathematics Education
- 2. Subject & Code : Differential Calculus, MAA 304
- 3. The number of SKS : Theory : 2 sks Practice : 1 sks
- 4. Semester and Duration : I, Duration : 100 minutes
- 5. Basic Competency : Determining the solution of inequalities involved

Absolute value of linear and quadratics forms

- 6. Achievement Indicator :
 Students are able to determine the solution of the inequalities involved absolute value of linear and quadratics forms

- 7. Material : Inequalities and absolute value

- 8. Lecture Activity : 4

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Explain briefly about activities that will students do 2. Give apperception	15'	LCD, white/black board	[A]: 15– 29 [B]: 6– 16
2	Main Activities	1. Explain briefly about inequalities involved absolute value of linear and quadratic forms 2. Students work in group to discuss inequalities involved absolute value of linear and quadratic forms 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
- [B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/05
 5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the solution of inequalities involved
 Absolute value of polynomial and rational forms
6. Achievement Indicator :
 Students are able to determine the solution of the inequalities involved absolute value of polynomial and rational forms
7. Material : Inequalities and absolute value
8. Lecture Activity : 5

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none"> 1. Explain briefly about activities that will students do 2. Give apperception 	15'	LCD, white/black board	[A]: 15– 29 [B]: 6– 16
2	Main Activities	<ol style="list-style-type: none"> 1. Explain briefly about inequalities involved absolute value of polynomial and rational forms 2. Students work in group to discuss inequalities involved absolute value polynomial and rational forms 3. Students present the discussion results 4. Do exercise and discuss the results 	75'		
3	Closing Activity	<ol style="list-style-type: none"> 1. Conclude the entire materials 2. Give tasks 	10'		

9. Evaluation
 The evaluation is performed based on the students activities in discussion, doing exercise.

10. References
 [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
 [B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/06
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determine the linear, quadratics and trigonometric functions
6. Achievement Indicator :
Students are able to mastering the concept of linear, quadratics and trigonometric functions.
7. Material : Functions
8. Lecture Activity : 6

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Explain briefly about advantages of function 3. Give apperception	15'	LCD, white/black board	[A]: 57– 86 [B]: 49– 76
2	Main Activities	1. Explain briefly the introduction of the concept of linear, quadratic and trigonometric functions 2. Students work in group to discuss the concept of linear and quadratics functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation
The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/07
 5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determine the functions
6. Achievement Indicator :
 Students are able to mastering the concept of polynomial, exponential, and logarithmic functions.
7. Material : Functions
8. Lecture Activity : 7

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none"> 1. Discuss briefly the relationship to prior material 2. Give motivation to the students 	15'	LCD, white/black board	[A]: 57– 86 [B]: 49– 76
2	Main Activities	<ol style="list-style-type: none"> 1. Explain briefly the introduction of the concept of polynomial, exponential, and logarithmic function 2. Students work in group to discuss the concept of polynomial, exponential, and logarithmic functions 3. Students present the discussion results 4. Do exercise and discuss the results 	75'		
3	Closing Activity	<ol style="list-style-type: none"> 1. Conclude the entire materials 2. Give tasks 	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
 [B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/08
 5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determine the type of functions
6. Achievement Indicator :
 Students are able to master the concept of odd and even functions from all type of functions discussed before.
7. Material : Functions
8. Lecture Activity : 8

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none"> 1. Discuss briefly the relationship to prior material 2. Give motivation to the students 	15'	LCD, white/black board	[A]: 57– 86 [B]: 49– 76
2	Main Activities	<ol style="list-style-type: none"> 1. Explain briefly the introduction of odd and even functions 2. Students work in group to discuss the concept of odd and even functions and their characteristics 3. Students present the discussion results 4. Do exercise and discuss the results 	75'		
3	Closing Activity	<ol style="list-style-type: none"> 1. Conclude the entire materials 2. Give tasks 	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
 [B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/09
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the limit of linear, quadratics and trigonometric functions
6. Achievement Indicator :
Students are able to determine the limit of linear, quadratics and trigonometric functions.
7. Material : Limit and continuity
8. Lecture Activity : 9

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:87– 130 [B]:86– 157
2	Main Activities	1. Explain briefly the introduction of limit of functions 2. Students work in group to discuss the concept of limit functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/010
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the limit of polynomial, exponential, and logarithmic functions
6. Achievement Indicator :
Students are able to determine the limit of polynomial, exponential, and logarithmic functions.
7. Material : Limit and continuity
8. Lecture Activity : 10

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:87– 130 [B]:86– 157
2	Main Activities	1. Explain briefly the introduction of limit of polynomial, exponential and logarithmic functions 2. Students work in group to discuss the concept of limit of polynomial, exponential and logarithmic functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation
The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/011
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determine the continuity of functions
6. Achievement Indicator :
Students are able to determining the continuity of all types of functions discussed before.
7. Material : Limit and continuity
8. Lecture Activity : 11

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:87– 130 [B]:86– 157
2	Main Activities	1. Explain briefly the introduction of continuity of functions 2. Students work in group to discuss the concept of continuity of functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation
The evaluation is performed based on the students activities in discussion, doing exercise.

10. References
[A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.

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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/012
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : -
6. Achievement Indicator : -
7. Material : MID Semester Examination
8. Lecture Activity : 12

No	Activity	Duration	Media
1	MID Semester Examination	100 minutes	Paper and pencil

9. Evaluation

The evaluation is performed based on the students' answering the exam questions.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/013
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the derivative of linear, quadratics and trigonometric functions
6. Achievement Indicator :
Students are able to determine the derivative of linear, quadratics and trigonometric functions
7. Material : Derivatives of functions
8. Lecture Activity : 13

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:141– 66 [B]:176- 24
2	Main Activities	1. Explain briefly the introduction of the derivative of linear, quadratics and trigonometric functions 2. Students work in group to discuss the concept of derivative of linear, quadratics and trigonometric functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/014
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the derivative of polynomial, exponential, and logarithmic functions
6. Achievement Indicator :
Students are able to determine the derivative of polynomial, exponential, and logarithmic functions
7. Material : Derivatives of functions
8. Lecture Activity : 14

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none">1. Discuss briefly the relationship to prior material2. Give motivation to the students	15'	LCD, white/black board	[A]:141- 66 [B]:176- 24
2	Main Activities	<ol style="list-style-type: none">1. Explain briefly the introduction of the derivative of polynomial, exponential, and logarithmic functions2. Students work in group to discuss the concept of derivative of polynomial, exponential, and logarithmic functions3. Students present the discussion results4. Do exercise and discuss the results	75'		
3	Closing Activity	<ol style="list-style-type: none">1. Conclude the entire materials2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/015
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the solution of growth and decay
6. Achievement Indicator :
Students are able to solve the problems relating to growth and decay
7. Material : Derivatives of functions
8. Lecture Activity : 15

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:141– 66 [B]:176- 24
2	Main Activities	1. Explain briefly the introduction about growth and decay problems 2. Students work in group to solve the problems of growth and decay 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/016
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the derivative of functions using chain rule
6. Achievement Indicator :
Students are able to solve the derivative problems using chain rule
7. Material : Chain rule
8. Lecture Activity : 16

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:167-179 [B]:254 - 240
2	Main Activities	1. Explain briefly the introduction chain rule 2. Students work in group to discuss the properties and characteristics of chain rule 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/017
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the derivative of functions using chain rule
6. Achievement Indicator :
Students are able to solve the derivative problems using chain rule
7. Material : Chain rule
8. Lecture Activity : 17

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:167-179 [B]:254 - 240
2	Main Activities	1. Explain briefly the introduction chain rule 2. Students work in group to find derivatives of linear and polynomial functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RPP/MAA 304/018
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the derivative of functions using chain rule
6. Achievement Indicator :
Students are able to solve the derivative problems using chain rule
7. Material : Chain rule
8. Lecture Activity : 18

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:167-179 [B]:254 - 240
2	Main Activities	1. Explain briefly the introduction chain rule 2. Students work in group to find derivatives of trigonometric, logarithm, and exponential functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/019
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the maxima and minima of the functions using derivatives.
6. Achievement Indicator :
Students are able to determine the stationary points of the functions
7. Material : Maxima-Minima
8. Lecture Activity : 19

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:225– 235 [B]:278 - 288
2	Main Activities	1. Explain briefly the stationary points of the functions 2. Students work in group to find the stationary points of the functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



UNIVERSITAS NEGERI YOGYAKARTA
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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/020
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the maxima and minima of the functions using derivatives.
6. Achievement Indicator :
Students are able to determine the maxima and minima value of the functions
7. Material : Maxima-Minima
8. Lecture Activity : 20

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:225– 235 [B]:278 - 288
2	Main Activities	1. Explain briefly the maxima-minima value of the functions 2. Students work in group to find the type, location and value of maxima-minima of the functions 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/021
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining the maxima and minima of the functions using derivatives.
6. Achievement Indicator :
Students are able to solve the maxima and minima problems
7. Material : Maxima-Minima
8. Lecture Activity : 21

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:225– 235 [B]:278 - 288
2	Main Activities	1. Students work in group to solve the maxima-minima problems (application of maxima- minima concept) 2. Students present the discussion results 3. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/022
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining high order derivatives
6. Achievement Indicator :

Students are able to determine high order derivatives of the functions (linear and polynomial functions)

7. Material : High order derivatives
8. Lecture Activity : 22

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:180– 189 [B]:254 - 260
2	Main Activities	1. Explain briefly about high order derivatives 2. Students work in group to discuss the concept of high order derivatives 3. Students present the discussion results 4. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/023
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining high order derivatives
6. Achievement Indicator :

Students are able to determine high order derivatives of the functions (trigonometric, logarithm, and exponential functions)

7. Material : High order derivatives
8. Lecture Activity : 23

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:180– 189 [B]:254 - 260
2	Main Activities	1. Students work in group to discuss the high order derivatives of trigonometric, logarithm, and exponential functions 2. Students present the discussion results 3. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/024
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining high order derivatives
6. Achievement Indicator :

Students are able to solve the problems related to the applications of the concept of high order derivatives

7. Material : High order derivatives
8. Lecture Activity : 24

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:180– 189 [B]:254 - 260
2	Main Activities	1. Students work in group to discuss and solve the problems related to application of high order derivatives concept 2. Students present the discussion results 3. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/025
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining implicit differentiation
6. Achievement Indicator :

Students are able to determine implicit differentiation of the functions (linear and polynomial functions)

7. Material : Implicit differentiation
8. Lecture Activity : 25

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none">1. Discuss briefly the relationship to prior material2. Give motivation to the students	15'	LCD, white/black board	[A]:189-208 [B]:241- 253
2	Main Activities	<ol style="list-style-type: none">1. Explain briefly the concept of implicit differentiation2. Students work in group to discuss implicit differentiation of linear and polynomial functions3. Students present the discussion results4. Do exercise and discuss the results	75'		
3	Closing Activity	<ol style="list-style-type: none">1. Conclude the entire materials2. Give tasks	10'		

11. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

12. References

- [A] Varberg Dale dan Purcell E.J. (2001). Kalkulus Jilid 1 (Edisi VII), Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/026
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining implicit differentiation
6. Achievement Indicator :

Students are able to determine implicit differentiation of the functions (trigonometric, logarithm, and exponential functions)

7. Material : Implicit differentiation
8. Lecture Activity : 26

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:189-208 [B]:241- 253
2	Main Activities	1. Students work in group to discuss and solve the implicit differentiation of trigonometric, logarithm, and exponential functions 2. Students present the discussion results 3. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/027
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Determining implicit differentiation
6. Achievement Indicator :

Students are able to solve the problems related to the applications of the concept of implicit differentiation

7. Material : Implicit differentiation
8. Lecture Activity : 27

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:189-208 [B]:241- 253
2	Main Activities	1. Students work in group to discuss and solve the problems related to application of implicit differentiation concept 2. Students present the discussion results 3. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/028
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Solving the derivative problems
6. Achievement Indicator :

Students are able to solve the problems related to the applications of the concept of derivatives

7. Material : Applications of the derivative
8. Lecture Activity : 28

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none">1. Discuss briefly the relationship to prior material2. Give motivation to the students	15'	LCD, white/black board	[A]:235– 285 [B]:302– 334
2	Main Activities	<ol style="list-style-type: none">1. Students work in group to discuss and solve the problems related to application of derivatives2. Students present the discussion results3. Do exercise and discuss the results	75'		
3	Closing Activity	<ol style="list-style-type: none">1. Conclude the entire materials2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/029
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Solving the derivative problems
6. Achievement Indicator :

Students are able to solve the problems related to the applications of the concept of derivatives

7. Material : Applications of the derivative
8. Lecture Activity : 29

No	Phase	Activity	Duration	Media	References
1	Introduction	1. Discuss briefly the relationship to prior material 2. Give motivation to the students	15'	LCD, white/black board	[A]:235– 285 [B]:302– 334
2	Main Activities	1. Students work in group to discuss and solve the problems related to application of derivatives 2. Students present the discussion results 3. Do exercise and discuss the results	75'		
3	Closing Activity	1. Conclude the entire materials 2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/030
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Solving the derivative problems
6. Achievement Indicator :

Students are able to solve the problems related to the applications of the concept of derivatives

7. Material : Applications of the derivative
8. Lecture Activity : 30

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none">1. Discuss briefly the relationship to prior material2. Give motivation to the students	15'	LCD, white/black board	[A]:235– 285 [B]:302– 334
2	Main Activities	<ol style="list-style-type: none">1. Students work in group to discuss and solve the problems related to application of derivatives2. Students present the discussion results3. Do exercise and discuss the results	75'		
3	Closing Activity	<ol style="list-style-type: none">1. Conclude the entire materials2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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FAKULTAS MIPA

RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/031
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : Solving derivative problems using mean theorem
6. Achievement Indicator :
Students are able to solve the derivative problems using mean theorem
7. Material : Mean Theorem
8. Lecture Activity : 31

No	Phase	Activity	Duration	Media	References
1	Introduction	<ol style="list-style-type: none">1. Discuss briefly the relationship to prior material2. Give motivation to the students	15'	LCD, white/black board	[A]:285– 293
2	Main Activities	<ol style="list-style-type: none">1. Explain briefly the Mean Theorem2. Students work in group to discuss and solve the derivative problems using mean theorem3. Students present the discussion results4. Do exercise and discuss the results	75'		
3	Closing Activity	<ol style="list-style-type: none">1. Conclude the entire materials2. Give tasks	10'		

9. Evaluation

The evaluation is performed based on the students activities in discussion, doing exercise.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.



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FAKULTAS MIPA

RENCANA PELAKSANAAN PEMBELAJARAN

RPP/MAA 304/032
5 September 2008

1. Faculty /Study Program : MIPA/Mathematics Education
2. Subject & Code : Differential Calculus, MAA 304
3. The number of SKS : Theory : 2 sks Practice : 1 sks
4. Semester and Duration : I, Duration : 100 minutes
5. Basic Competency : -
6. Achievement Indicator : -
7. Material : Examination
8. Lecture Activity : 32

No	Activity	Duration	Media
1	Examination	100 minutes	Paper and pencil

9. Evaluation

The evaluation is performed based on the students' answering the exam questions.

10. References

- [A] Varberg Dale dan Purcell E.J. (2001). *Kalkulus Jilid 1 (Edisi VII)*, Batam: Interaksa
[B] Leithold, L. (1986). *The Calculus with Analytic Geometry*. Harper & Row Publisher.