



# Satuan Acara Pengajaran

MAT30312 - Pemrograman Dinamik (OR)

Pengajar

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## Minggu 1

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**Materi**      Pendahuluan  
Shortest Path

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**Media**

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**Referensi**

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**Aktivitas**    Kuliah Interaktif  
Diskusi Kelompok

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## Minggu 2

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**Materi**      Shortest path

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**Media**

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**Referensi**

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**Aktivitas**    Presentasi

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## Minggu 3

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**Materi**      Fungsi Rekursif  
Fungsi Separable  
Beberapa contoh sederhana Pemrograman Dinamik

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**Media**

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## Referensi

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**Aktivitas**      Kuliah Interaktif  
Diskusi Kelompok

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## Minggu 4

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**Materi**            Knapsack problem  
Cargo loading model  
Resources allocation problem  
Distributing medical team problem  
Optimal cutting stock problem  
Work force size model

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## Media

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## Referensi

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**Aktivitas**      Presentasi

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## Minggu 5

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**Materi**            Kuis  
Konsep pemrograman dinamik

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## Media

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## Referensi

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**Aktivitas**      Kuis  
Diskusi Kelompok

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## Minggu 6

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**Materi**            Konsep pemrograman dinamik  
Pemrograman dinamik status tunggal diskret

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## Media

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## Referensi

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**Aktivitas**      Presentasi  
Diskusi Kelompok

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## Minggu 7

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**Materi**      Pemrograman dinamik status tunggal diskret:  
- Equipment replacement  
- Integer nonlinear programming  
- Integer constrained problem

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**Media**

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**Referensi**

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**Aktivitas**    Diskusi Kelompok  
Presentasi

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## Minggu 8

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**Materi**      Inventory Control Problem  
Facilities Selection Problem  
Review

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**Media**

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**Referensi**    Cooper, Leon & Cooper, Mary W. Introduction to Dynamic Programming. Pergamon Press, 1981.  
Ravindran, A., Phillips, Don T., & Solberg, James J. Operation Research: Principles and Practice. John Wiley & Sons, Inc, 1987.

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**Aktivitas**    Presentasi  
Kuliah Interaktif

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## Minggu 9

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**Materi**      UTS

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**Media**

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**Referensi**

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**Aktivitas**    UTS

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## Minggu 10

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**Materi** Pembahasan UTS  
Pemrograman dinamik status tunggal kontinu  
Pemrograman dinamik multi dimensi

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**Media**

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**Referensi** Cooper, Leon & Cooper, Mary W. Introduction to Dynamic Programming. Pergamon Press, 1981.  
Hillier, Frederick S. & Lieberman, Gerald J. Introduction to Operations Research. McGraw-Hill, 1995.  
Parlar, Mahmut. Interactive Operations Research with MAPLE: Methods and Models. Birkhauser, 2000.  
Ravindran, A., Phillips, Don T., & Solberg, James J. Operation Research: Principles and Practice. John Wiley & Sons, Inc, 1987.  
Winston, Wayne L. Introduction to Mathematical Programming: Applications and Algorithms. Duxbury Press, 1995.

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**Aktivitas** Kuliah Interaktif  
Diskusi Kelompok

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Minggu 11

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**Materi** Some variations of the prototype problem  
A nonlinear allocation problem  
Scheduling employment levels  
Mutual fund investment strategies  
Using SPREADSHEET and MAPLE to solve dynamic programming problems

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**Media**

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**Referensi** Cooper, Leon & Cooper, Mary W. Introduction to Dynamic Programming. Pergamon Press, 1981.  
Hillier, Frederick S. & Lieberman, Gerald J. Introduction to Operations Research. McGraw-Hill, 1995.  
Parlar, Mahmut. Interactive Operations Research with MAPLE: Methods and Models. Birkhauser, 2000.  
Ravindran, A., Phillips, Don T., & Solberg, James J. Operation Research: Principles and Practice. John Wiley & Sons, Inc, 1987.  
Winston, Wayne L. Introduction to Mathematical Programming: Applications and Algorithms. Duxbury Press, 1995.

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**Aktivitas** Presentasi

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Minggu 12

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**Materi** Using MATLAB to solve dynamic programming problems  
The curse of dimensionality  
Pemrograman dinamik probabilistik  
Travelling Salesman Problem  
Lagrangian Multiplier

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**Media**

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**Referensi** Cooper, Leon & Cooper, Mary W. Introduction to Dynamic Programming. Pergamon Press, 1981.  
Hillier, Frederick S. & Lieberman, Gerald J. Introduction to Operations Research. McGraw-Hill, 1995.  
Taha, Hamdy A. Operations Research: An Introduction. Prentice-Hall, 1997.

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**Aktivitas** Presentasi  
Diskusi Kelompok

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Minggu 13

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**Materi** Pemrograman dinamik probabilistik  
Travelling Salesman Problem  
Lagrangian multiplier

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**Media**

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**Referensi** Cooper, Leon & Cooper, Mary W. Introduction to Dynamic Programming. Pergamon Press, 1981.  
Hillier, Frederick S. & Lieberman, Gerald J. Introduction to Operations Research. McGraw-Hill, 1995.  
Taha, Hamdy A. Operations Research: An Introduction. Prentice-Hall, 1997.

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**Aktivitas** Presentasi

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Minggu 14

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**Materi** Markov processes  
Markovian sequential decision process  
Lagrangian multipliers to reduce state dimensionality

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**Media**

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**Referensi** Cooper, Leon & Cooper, Mary W. Introduction to Dynamic Programming. Pergamon Press, 1981.

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**Aktivitas** Presentasi

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## Minggu 15

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**Materi**      Review

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**Media**

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**Referensi**

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**Aktivitas**      Kuliah Interaktif

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## Minggu 16

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**Materi**      UAS

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**Media**

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**Referensi**

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**Aktivitas**      UAS

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