

# Calculus of Variations and Optimal Control Theory

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1. 01	5. 05	9. 09	13. 13	17. 17	21. 21	25. 25
2. 02	6. 06	10. 10	14. 14	18. 18	22. 22	26. 26
3. 03	7. 07	11. 11	15. 15	19. 19	23. 23	27. 27
4. 04	8. 08	12. 12	16. 16	20. 20	24. 24	28. 28

## Supplementary Materials

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| 1. Functionals and Extremization                  | 8. Functionals w. Higher Order Derivatives         |
| 2. Fundamental Lemma of Variational Calculus      | 9. Functionals w. Multiple Dependent Variables     |
| 3. Example: Shortest Path                         | 10. Functionals w. Multiple Independent Variables  |
| 4. Example: Surface of Revolution                 | 11. Principle of Stationary Total Potential Energy |
| 5. First Integrals of the Euler-Lagrange Equation | 12. Potential Energy of an Elastic Body            |
| 6. Delta Operator                                 | 13. Rayleigh-Ritz Method                           |
| 7. Natural Boundary Conditions                    | 14. Ritz Method and Finite Element Analysis        |

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