Calculus II, Spring 2024 (http://www.math.nthu.edu.tw/~wangwc/) Thomas' Calculus Early Transcendentals 13ed

## Study guide for Midterm 02

Midterm problems include both the lecture contents and homework problems.

- 1. Review study guide for midterm 01. Review and correct your mistakes in midterm 01. Pay attention to algebraic manipulation, term by term differentiation and integration of power series, and identifying a function from its power series expansion. This part constitutes 15-20 extra points beyond the 100 points from Section 14.2-14.9.
- 2. Review study guide for quiz 06-09 (section 14.2-14.7). In particular, pay attention to the items listed in the study guides but did not appear in the quizzes (due to time constraint).
- 3. Section 14.8: Review all cases for the method of the Lagrangian multipliers. For example, extreme values of
  - functions of 2 variables, with 1 constraint.
  - functions of 3 variables, with 1 constraint.
  - functions of 3 variables, with 2 constraints.

Pay attention to number of equations and number of unknowns in each case.

4. Section 14.9: Review the derivation of Taylor's formula for functions of two variables and its generalization to three or more variables. Memorize the results.