## Course Description

## Department of Mathematics

| Nature of the course  ☐ required ☐ elective           |                        | Area 麻煩老師勾選類別,或直接填寫 <u>Analysis</u> 。 □ Algebra □ Analysis □ Geometry □ Statistics □ Applied Mathematics □ Discrete Mathematics □ Others |    |                   |   |
|---|------------------------|--|----|-------------------|---|
| Calculus   Calculus A   Calculus B                    |                        |  |    |                   |   |
| Course number   | 201 101B1              | Section number   | 08 | Number of credits | 3 |
| Course title  | Calculus               |  |    |                   |   |
| Instructor  | Tsung- Ming Tsai [蔡聰明] |  |    |                   |   |
| I. Contents:  |                        |  |    |                   |   |
| 1. Techniques of Integration                          |                        |  |    |                   |   |
| 2. Further Applications of Integration                |                        |  |    |                   |   |
| 3. Differential equations                             |                        |  |    |                   |   |
| 4. Partial Derivatives                                |                        |  |    |                   |   |
| 5. Multiple Integrals                                 |                        |  |    |                   |   |
| 6. Green Theorem                                      |                        |  |    |                   |   |
|   |                        |  |    |                   |   |
| II. Course prerequisite:                              |                        |  |    |                   |   |
| High school mathematics                               |                        |  |    |                   |   |
| And the first term Calculus                           |                        |  |    |                   |   |
| III. Reference material ( textbook(s) ):              |                        |  |    |                   |   |
| James: Calculus, Early Transcendentals, Sixed Edition |                        |  |    |                   |   |
|   |                        |  |    |                   |   |
| IV. Grading scheme:                                   |                        |  |    |                   |   |
| Midterm exam 40%                                      |                        |  |    |                   |   |
| Final exam 40%  |                        |  |    |                   |   |
| Home work 20%   |                        |  |    |                   |   |
|   |                        |  |    |                   |   |
| V. Others:  |                        |  |    |                   |   |
|   |                        |  |    |                   |   |
| VI. Course Goal:                                      |                        |  |    |                   |   |
| To understand calculus and to apply calculus.         |                        |  |    |                   |   |
|   |                        |  |    |                   |   |
|   |                        |  |    |                   |   |