

朝陽科技大學 097學年度第1學期教學大綱  
Calculus 微積分

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| 當期課號   | 3021   | Course Number      | 3021   |
| 授課教師   | 賴慶祥  | Instructor         | LAI,CHING HSIANG   |
| 中文課名   | 微積分  | Course Name        | Calculus   |
| 開課單位   | 財務金融系(四進)–A  | Department         |  |
| 修習別    | 必修   | Required/Elective  | Required   |
| 學分數    | 3  | Credits            | 3  |
| 課程目標   | 著重在積分的介紹與應用.此課程乃要幫助學生學會反導數,以及它的推導和應用.另外也要幫助學生學會並運用部分積分和重積分的工具,去解決複雜的積分問題.若時間許可,泰勒多項式和無窮級數也會包含在此課程中,因其在財務金融的領域上也是常被用到的工具.   | Objectives         | This course will involve introduction to integration, the method of integration, the application of definite integration, partial derivatives, multi-integration, and, if time allowing, differential equations and Taylor polynomials and infinite series.  |
| 教材     | Tan, Applied Calculus (7th ed.), Thomson.  | Teaching Materials | Tan, Applied Calculus (7th ed.), Thomson.  |
| 成績評量方式 | 期中考：30%<br>期末考：40%<br>小考：1~2次 合計 10%<br>作業：1~2次 合計 10%<br>出席：10% (每次缺席扣2分)   | Grading            | Midterm Exam：30%<br>Final Exam：40%<br>Quiz (1~2): 10%<br>Homework (1~2): 10%<br>Attendance: 10%  |
| 教師網頁   | -  |                    |  |
| 教學內容   | 1. Introduction<br>2. Mathematical Definition of Limits<br>3. Limits<br>4. Continuity<br>5. The Derivative<br>6. Rules for Differentiation<br>7. Differentiability and Continuity<br>8. Product and Quotient Rules<br>9. The Chain Rule and Extended Power rule<br>10. Midterm Exam<br>11. Derivatives of the Trigonometric Functions<br>12. Derivatives of the Exponential and Logarithm Functions<br>13. Rolle's Theorem and the Mean Value Theorem<br>14. Newton's Iterative Procedure for Solving Equations<br>15. Curve Sketching<br>16. Absolute Maximum and Minimum<br>17. L'Hopital's Rule<br>18. Final Exam | Syllabus           | 1. Introduction<br>2. Mathematical Definition of Limits<br>3. Limits<br>4. Continuity<br>5. The Derivative<br>6. Rules for Differentiation<br>7. Differentiability and Continuity<br>8. Product and Quotient Rules<br>9. The Chain Rule and Extended Power rule<br>10. Midterm Exam<br>11. Derivatives of the Trigonometric Functions<br>12. Derivatives of the Exponential and Logarithm Functions<br>13. Rolle's Theorem and the Mean Value Theorem<br>14. Newton's Iterative Procedure for Solving Equations<br>15. Curve Sketching<br>16. Absolute Maximum and Minimum<br>17. L'Hopital's Rule<br>18. Final Exam |

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