# 朝陽科技大學 093學年度第2學期教學大綱
# Calculus 微積分

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| 當期課號 | 1844 | Course Number | 1844 |
| 授課教師 | 武季蔚 | Instructor | WU,CHEI WEI |
| 中文課名 | 微積分 | Course Name | Calculus |
| 開課單位 | 會計系(四日)一B | Department | |
| 修習別 | 必修 | Required/Elective | Required |
| 學分數 | 3 | Credits | 3 |
| 課程目標 | 數學模式廣泛應用在企業經營、經濟、統計、財務、管理等社會科學領域，其中微積分尤爲重點。因此，對微積分的了解有助於同學在其主修領域的學習。本課程按函數、極限、微分、積分之順序講授並隨時輔以範例說明其應用情形。 | Objectives | Mathematic models are widely applied to business, economics, statistics, financial, management, and other social science fields. Of all these models, calculus is the most important. The realization in calculus will help students to study each major field. This course is to introduce function, limit, differentiation, and integration in order. And some real examples will be given to explain its application. |
| 教材 | 書名：Calculus & Its Application 2/e。<br>作者：Daniel D. Benice。 | Teaching Materials | |
| 成績評量方式 | 1. 小考30%。 2. 期中考30%。 3. 期末考40%。 | Grading | 1. Quizs: 30%。 2. Middle Term Exam.: 30%。 3. Final Exam.: 40%。 |
| 教師網頁 | _ | | |
| 教學內容 | 1. 微分複習、不定積分介紹<br>2. 代換積分法、分部積分<br>3. 指數函數與對數函數之積分<br>4. 積分技巧應用<br>5. 部分分式法，不定積分應用<br>6. 定積分及其性質<br>7. 微積分基本定理，定積分之代換積分法<br>8. 瑕積分，積分近似直求法<br>9. 期中考<br>10.定積分面積上應用<br>11.定積分經濟商業上應用<br>12.偏微分介紹，三維座標<br>13.多變數函數，極限與連續<br>14.偏導函數及其幾何意義及全微分<br>15.偏導函數經濟上應用<br>16.極值及條件極值應用<br>17.重積分及其應用<br>18.期末考 | Syllabus | 1. Derivation review, Antidifferentiation<br>2. Integration techniques<br>3. Integration of Exponential and Logarithmic function<br>4. Integration by parts and application<br>5. Definite integral<br>6. Application of integration techniques<br>7. The fundamental theorem of calculus<br>8. Improper integrals and Numerical approximation<br>9. Midterm Exam<br>10.Applications of integrals in area<br>11.Applications of integrals in economics and business<br>12.Introduction of partial differential and 3 dimension coordinate<br>13.Function of multiple variables and limits and continuity<br>14.Geometric mean of partial difference and total difference<br>15.Application of partial differential in economics<br>16.Application of extrema and conditional extrema<br>17.Double integrals and its application<br>18.Final Exam |

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