# 朝陽科技大學 099學年度第1學期教學大綱
# Calculus(I) 微積分(一)

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| 當期課號 | 1513 | Course Number | 1513 |
| 授課教師 | 蔡佩勳 | Instructor | TSAI,PEI HSUN |
| 中文課名 | 微積分(一) | Course Name | Calculus(I) |
| 開課單位 | 營建工程系(四日)一B | Department | |
| 修習別 | 必修 | Required/Elective | Required |
| 學分數 | 3 | Credits | 3 |
| 課程目標 | 此課程之主要目的在教導大一學生學習基本微積分的技巧。課程首先介紹生活上、工程實務上會運用微積分的時機，並引入何時可採一般數學方式來解析問題，何時則必須運用微積分來解析問題。課程重點涵蓋理論推導、基本題型、思考題型和工程實務應用題目之演算。主要授課主題包括：運用微積分所需之基本數學介紹、極限計算與相關性質、微分之演算、微分之應用與分析、積分的由來與計算。本課程透過推導、演算、問題解析和課後作業來增進學生思維、計算和解析之能力，進而使學生具有工程計算、分析與設計之能力。 | Objectives | This course is designed to educate freshman students with basic calculating skill and understanding on calculus, and prepare for learning calculus (II), engineering mathematic, and mechanics. First of all, this course introduces the opportunity for applying calculus on life and engineering practice, what problems we may use mathematic to analysis, what problems we should use calculus. Main topics include precalculus review, preparation for calculus, limits and their properties, differentiation, applications of differentiation, and basic integration. |
| 教材 | 1.上課講義與投影片<br>2.Larson et al., "Calculus",9th | Teaching Materials | 1.Handouts and transparencies<br>2.Larson et al., "Calculus",9th |
| 成績評量方式 | 1.作業（10%）<br>2.平時考二次（20%*2=40%）<br>3.期中考（25%）<br>4.期末考（25%） | Grading | 1. Homework (10%)<br>2. Quizzes (20%*2=40%)<br>3. Midterm (25%)<br>4. Final exam. (25%) |
| 教師網頁 | | | |
| 教學內容 | 1.基本數學 2.極限計算與相關性質 3.微分 4.微分之應用5.積分 | Syllabus | The course includes: Preparation for calculus, limits and their properties, differentation, applications of differentiation, integration |

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