

Text: Differential Geometry of Curves and Surfaces, revised & updated second edition, by  
 Manfredo P. Do Carmo, Dover Publications, Inc.  
 Prerequisite: Linear Algebra and Advanced Calculus  
 Course Website: <http://www.math.ncku.edu.tw/~rchen/>

		1-3	Regular Curves; Arc Length
Chapter 1 Curves	第一週 2/23, 2/25	1-4	The Vector Product in $\mathbb{R}^3$
		1-5	The Local Theory of Curves Parametrized by Arc Length
		1-6	The Local Canonical Form
	第二週 3/2, 3/4	1-7	Global Properties of Plane Curves
	第三週 3/9, 3/11		
Chapter 2 Regular Surfaces	第四週 3/16, 3/18	2-2	Regular Surfaces; Inverse Images of Regular Values
	第五週 3/23, 3/25	2-2	Regular Surfaces; Inverse Images of Regular Values
	第六週 3/30, 4/1	2-3	Change of Parameters; Differentiable Functions on Surface
	第七週 4/6, 4/8	2-4	The Tangent Plane; The Differential of a Map
	第八週 4/13, 4/15	2-5	The First Fundamental Form; Area
	第九週 4/20, 4/22		Midterm Exam (考試時間及範圍將依據實際課程之進度調整)
Chapter 3 The Geometry of the Gauss Map	第十週 4/27, 4/29	3-2	The Definition of the Gauss Map and Its Fundamental Properties
	第十一週 5/4, 5/6	3-2	The Definition of the Gauss Map and Its Fundamental Properties
	第十二週 5/11, 5/13	3-3	The Gauss Map in Local Coordinates
Chapter 4 The Intrinsic Geometry of Surfaces	第十三週 5/18, 5/20	4-2	Isometries; Conformal Maps
	第十四週 5/25, 5/27	4-3	The Gauss Theorem and the Equations of Compatibility
	第十五週 6/1, 6/3	4-4	Parallel Transport; Geodesics
	第十六週 6/8, 6/10	4-5	The Gauss-Bonnet Theorem and Its Applications
	第十七週 6/15, 6/17	4-5	The Gauss-Bonnet Theorem and Its Applications
	第十八週 6/22, 6/24		Final Exam (考試時間及範圍將依據實際課程之進度調整)

### Grading

期中考	40%
作業及平時表現	20%
期末考	40%

Course Lecture Hours : Tuesday 13:10-15:00; Thursday 14:10-15:00 in 數學系館 3174

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