

TABLE OF CONTENTS

Part One

	page
<u>Selected Topics in Geometry</u>	1
New York University 1946	
Notes by Peter Lax	
Chapter I The Euler Characteristic and Related Topics	3
Chapter II Selected Topics in Elementary Differential Geometry	30
Chapter III The Isoperimetric Inequality and Related Inequalities	47
Chapter IV The Elementary Concept of Area and Volume	58

Part Two

<u>Differential Geometry in the Large</u>	77
Stanford University 1956	
Notes by J.W. Gray	
Introduction	81
Chapter I Differential Geometry of Surfaces in the Small	82
Chapter II Some General Remarks on Closed Surfaces in Differential Geometry	100
Chapter III The Total Curvature (Curvatura Integra) of a Closed Surface with Riemannian Metric and Poincaré's Theorem on the Singularities of Fields of Line Elements	107
Chapter IV Hadamard's Characterization of the Ovaloids	119
Chapter V Closed Surfaces with Constant Gauss Curvature (Hilbert's Method) - Generalizations and Problems - General Remarks on Weingarten Surfaces	123
Chapter VI General Closed Surfaces of Genus 0 with Constant Mean Curvature - Generalizations	136
Chapter VII Simple Closed Surfaces (of Arbitrary Genus) with Constant Mean Curvature - Generalizations	147
Chapter VIII The Congruence Theorem for Ovaloids	163
Chapter IX Singularities of Surfaces with Constant Negative Gauss Curvature	174