Lectures on Curves on an Algebraic Surface

David Mumford

with a section by **G. M. Bergman**

HINDUSTAN BOOK AGENCY

CONTENTS

INTRODUCTION	
LECTURES 1:	Raw Material on Curves on Surfaces, and the
:	Problems Suggested
2:	The Fundamental Existence Problem and Two Analytic
	Proofs
3:	Pre-schemes and their Associated "Functor of Points" 11
4:	Uses of the Functor of Points
Appendix to Lecture 4: Re Representable Functors and Zariski	
	Tangent Spaces
5*	Proj and Invertible Sheaves
6:	Properties of Morphisms and Sheaves
7: 1	Resume of the Cohomology of Coherent Sheaves on P_n 47
8:	Flattening Stratifications
	Cartier Divisors 61
10:	Functorial Properties of Effective Cartier Divisors 69
	Back to the Classical Case
	The Over-all Classification of Curves on Surfaces . 83
	Linear Systems and Examples
14:	Some Vanishing Theorems
15:	Universal Families of Curves 105
16:	The Method of Chow Schemes
17:	Good Curves
18: '	The Index Theorem
	The Picard Scheme: Outline
20:	Independent 0-cycles on a Surface 139
21:	The Picard Scheme: Conclusion
22:	The Characteristic Map of a Family of Curves 151
23:	The Fundamental Theorem Via Kodaira-Spencer 157
24:	The Structure of •
-	The Fundamental Theorem Via Grothendieck-Cartier 167
26:	Ring Schemes: The Witt Scheme, by G.M. Bergman . 171
Appendix to Lec	ture 26:
27:	The Fundamental Theorem in Characteristic p 193
BIBLIOGRAPHY .	

7