

# TABLE OF CONTENTS

PREFACE	iii
TABLE OF CONTENTS	vii
Chapter 1. RUDIMENTS AND NOTATIONS	1
1.1 Universal algebra.	2
1.2 Algebras in categories.	6
1.3 The category of congruences.	10
1.4 Mal'cev varieties.	17
NOTES	22
Chapter 2. CENTRALITY	23
2.1 Centrality in general.	24
2.2 Centrality in Mal'cev varieties.	33
2.3 Nilpotence.	41
Chapter 3. DIRECT DECOMPOSITIONS	49
3.1 Classical results.	50
3.2 Centrality and direct decompositions.	59
NOTES	68
Chapter 4. CENTRAL ISOTOPY AND CANCELLATION	69
4.1 Central isotopy.	69
4.2 Cancellation.	77
4.3 Cubic hypersurface quasigroups.	87

Chapter 5.	PLAIN ALGEBRAS AND EQUATIONAL COMPLETENESS	93
5.1	Plain algebras.	95
5.2	Equational completeness.	97
5.3	Free algebras in equationally complete varieties.	103
	NOTES	112
Chapter 6.	EXTENSIONS AND OBSTRUCTIONS	113
6.1	Simplicial objects and cohomology.	114
6.2	Obstructions to extensions.	124
6.3	Classifying extensions.	132
6.4	Classifying obstructions.	142
	NOTES	151
	REFERENCES	152
	ALPHABETICAL INDEX	154
	INDEX OF (NON-ALPHABETICAL) NOTATION	157