

# MATH 116 - BASIC ALGEBRAIC STRUCTURES

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PRINCIPAL TEXTBOOK : J. Gilbert, L. Gilbert : *Elements of Modern Algebra* . <sup>1</sup>

AUXILIARY TEXTBOOK : J. B. Fraleigh : *A First Course in Abstract Algebra* .

ASSESSMENT : There will be two midterm ( $MT1$ ,  $MT2$ ) examinations and one final ( $F$ ) examination with 100 points to be awarded in each. The numerical grade  $NG$  of the student will be

$$NG = 0.30(MT1 + MT2) + 0.40F \leq 100 .$$

- Only one make-up examination will be offered for the benefit of those students who have been unable to sit for any of the midterm or final examinations. The make-up will resemble the final examination as regards its form and content and take place shortly after it. The grade obtained in the make-up examination will be treated as the grade obtained in the unattended examination. It is inadvisable to sit for the make-up examination except in cases of the most extreme emergency.

WEEK	DATES	SUBJECTS COVERED
1	20nd Feb. - 24th Feb.	Binary operations, matrices (Sec. 1.4 1.6)
2	27th Feb. - 3th Mar.	Groups, subgroups (Sec. 3.1, 3.2, 3.3)
3	6th Mar. - 10th Mar.	Cyclic groups (Sec. 3.4, 2.5, 2.6)
4	13th Mar. - 17th Mar.	Homomorphisms, isomorphisms (Sec. 3.6, 3.5)
5	20st Mar. - 24th Mar.	Permutation groups (Sec. 4.1, 1.5)
6	27th Mar. - 31st Mar.	Normal subgroups, quotient groups (Sec. 4.4, 4.5, 4.6)
		<b>FIRST MIDTERM EXAMINATION</b>
7	3th Apr. - 7th Apr.	Rings and subrings (Sec. 5.1)
8	10th Apr. - 14th Apr.	Integral domains and fields (Sec. 5.2, 2.3, 2.4)
9	17th Apr. - 21nd Apr.	Ideals, quotients, isomorphisms in rings (Sec. 6.1, 6.2)
10	24th Apr. - 28th Apr.	Real and complex numbers, quaternions (Sec. 7.1, 7.2)
11	1st May - 5th May	Polynomials over a ring (Sec. 8.1)
		<b>SECOND MIDTERM EXAMINATION</b>
12	8th May - 12th May	Divisibility, prime factors, GCDs (Sec. 8.2, 2.3, 2.4)
13	15th May - 19th May	Factorization of polynomials (Sec. 8.3)
14	22rd May - 26th May	Zeros of polynomials (Sec. 8.4)

<sup>1</sup>Several copies are available in the "Reserve" section of our library.