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## Suggested Introductory Course in Mathematics

<b>Graphs</b>	GRAPHS AND THEIR REPRESENTATION	Section 1.1
	ISOMORPHISMS	Section 1.2
<b>Subgraphs</b>	UNION AND INTERSECTION	Section 1.4
	SUBGRAPHS AND SUPERGRAPHS	Section 2.1
	SPANNING SUBGRAPHS	Section 2.2
	PROOF TECHNIQUE: INDUCTION	
	PROOF TECHNIQUE: CONTRADICTION	
	INDUCED SUBGRAPHS	
	MODIFYING GRAPHS	Section 2.3
	DECOMPOSITIONS	Section 2.4
	EDGE CUTS	Section 2.5
	BONDS	
<b>Connected Graphs</b>	WALKS	Section 3.1
	CUT EDGES	Section 3.2
	EULER TOURS	Section 3.3
	FLEURY'S ALGORITHM	
<b>Trees</b>	FORESTS AND TREES (EXCEPT INSET)	Section 4.1
	SPANNING TREES	Section 4.2
	FUNDAMENTAL CYCLES AND BONDS	Section 4.3
<b>Nonseparable Graphs</b>	CUT VERTICES	Section 5.1
	NONSEPARABLE GRAPHS	Section 5.2
	BLOCKS	
<b>Connectivity</b>	VERTEX CONNECTIVITY	Section 9.1
	EDGE CONNECTIVITY	Section 9.3
<b>Planar Graphs</b>	PLANE AND PLANAR GRAPHS	Section 10.1
	FACES	Section 10.2
	DUALS	
	EULER'S FORMULA	Section 10.3
<b>The Four-Colour Problem</b>	COLOURINGS OF PLANAR MAPS	Section 11.1
	THE FIVE-COLOUR THEOREM	Section 11.2

## Optional Topics

<b>Stable Sets and Cliques</b>	STABLE SETS AND CLIQUE NUMBERS	Section 12.1
	TURÁN'S THEOREM	Section 12.2
	RAMSEY NUMBERS AND RAMSEY GRAPHS	Section 12.3
	BOUNDS ON RAMSEY NUMBERS	
<b>Vertex Colourings</b>	CHROMATIC NUMBER	Section 14.1
	<b>Matchings</b>	
	MAXIMUM MATCHINGS	Section 16.1
	MATCHINGS IN BIPARTITE GRAPHS	Section 16.2
<b>Edge Colourings</b>	EDGE CHROMATIC NUMBER	Section 17.1
	VIZING'S THEOREM	Section 17.2
<b>Hamilton Cycles</b>	HAMILTONIAN AND NONHAMILTONIAN GRAPHS	Section 18.1
	NONHAMILTONIAN PLANAR GRAPHS	Section 18.2
	PATH EXCHANGES	Section 18.3
	CYCLE EXCHANGES	
	DIRAC'S THEOREM	