MATH3720A Examinable course content

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The following chapters and sections from the lecture notes may appear in the exam.

- Section 2.2 - Integrating factors

- Section 2.3 - Separable equations

- Section 2.6 - Exact equations with integrating factors

- Section 2.7 - Linear vs Nonlinear ODEs (no proofs)

- Section 3.2 - Principle of superposition (and proof of the results involving Wronskian, linear independence, fundamental set of solutions)

- Section 3.3 - Homogeneous equations with constant coefficients

- Section 3.4 - Reduction of order

- Section 4.1 - General theory high order linear equations

- Section 4.2 - Homogeneous equation with constant coefficients

- Section 4.3 - Non-homogeneous equations (method of undetermined coefficients)

- Section 4.4 - Variation of parameters

- Section 5.3 - Basic theory of systems of first order linear equations

- Section 5.4 - Homogeneous system with constant coefficients (excluding Section 5.4.2 on three-by-three matrices)

- Section 5.5 - Non-homogeneous linear systems

- Section 6.2 - First order linear systems (excluding Section 6.2.7 on the case where 0 is an eigenvalue)

- Section 6.3 - Locally linear systems

- Section 6.4 - Liapunov's second method