Daniel Dema

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EDUCATION

University of Toronto   Toronto, ON
Honours Bachelor of Science - Mathematics Specialist Program   *Sep. 2019 – Present*

Relevant Coursework: Topology, Real Analysis, Measure Theory, Dynamics of Transformation Groups and Structural Ramsey Theory, Set Theory, Readings on the Continuum Hypothesis, Readings on Descriptive Set Theory

TEACHING EXPERIENCE

Teaching Assistant   Sep. 2021 – Present
University of Toronto   *Toronto, ON*

Courses TAed:

MAT240H5 - Algebra I (Winter 2023, Winter 2024): A first course in theoretical linear algebra aimed at students with a serious interest in mathematics. Primarily proof-based with some computations included.

MAT224H5 - Linear Algebra II (Fall 2021, Winter 2022, Winter 2023): A second course in linear algebra with an emphasis on proof-based problem solving.

MAT137Y5 - Calculus (Winter 2022): A first course in integral calculus with an emphasis on proof-based problem solving.

MAT136H5 - Integral Calculus (Winter 2024): A first course in integral calculus with an emphasis on computations.

MAT135H5 - Differential Calculus (Summer 2022): A first course in differential calculus with an emphasis on computations.

MAT102H5 - Introduction to Mathematical Proofs - (Fall 2022, Summer 2023, Fall 2023): An introduction to concepts used in various areas of mathematics and how these concepts are used to construct formal mathematical arguments.

MATA22H3 - Linear Algebra I for Mathematical Sciences (Summer 2023) A first course in linear algebra with an equal emphasis on proof-writing and computation.

TALKS

An Introduction to Descriptive Set Theory (University of Toronto, 2023): A crash course on Polish spaces, followed by an introduction to the notions of measure and category, with a discussion of how classical theorems on Polish spaces can be used to prove the Erdős-Sierpiński duality between measure and category.

Basic Embedding Results in Descriptive Set Theory (University of Toronto, 2023): A brief introduction to Polish spaces, followed by a discussion of classical embedding results involving the Hilbert Cube, the Cantor space, and the Baire space.

PROFESSIONAL DEVELOPMENT

Extended French Certificate With Specialization
Toronto Catholic District School Board   *May 2019*