

Dominic Gastaldo

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RESEARCH EXPERIENCE

Gravity Group, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA
Undergraduate Research Student, Physics Department

May 2014 – Sep 2014

- Investigation into the structure of a hyperbolic PDE with singularity source used in the modeling of gravitational radiation

Gravity Group, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA
Graduate Research Student, Physics Department

Feb 2016 –Current

- Implementation of spectral methods in the numerical study of scalar collapse in Anti de Sitter space

WORK HISTORY

Science and Engineering Tutor, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

May 2014 – May 2016

- Taught course material appropriate for success of students
- Directed student success in the completion of class work

Freshman Summer Institute Teacher Assistant, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Aug 2014 –Aug 2014

- Taught precalculus to prepare students for calculus placement exam
- Supervised experiments to determine strain values of various materials
- Assisted in mechanics of materials calculations and data representation
- Provided 24-hour service to fit student residential needs (e.g. additional education, medical needs and program attendance supervision)

Summer Bridge Program Teacher Assistant, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Aug 2014 – Aug 2014

- Taught precalculus and mathematical concepts to prepare students for calculus placement exam
- Taught precalculus and mathematical concepts to prepare students for calculus placement exam
- Designed exam to test student progress

Summer Bridge Program Teacher Assistant, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Jul 2015 – Jul 2015

- Taught precalculus and mathematical concepts to prepare students for calculus placement exam
- Designed exam to test student progress

Freshman Summer Institute Lead Mathematics Teacher Assistant, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Aug 2015 – Aug 2015

- Led and coordinated mathematics tutoring
- Designed and administered examinations
- In class assistant
- Provided 24-hour service to fit student residential needs (e.g. additional education, medical needs and program attendance supervision)
- Assisted in teaching mechanics of materials concepts

Primary Author of “A Mathematics Review for the Student of Biology”, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Aug 2015 – Current

- Designed structure and outline of text to accompany Summer Bridge Program for biology students
- Designed problems and in text examples
- Wrote an explication of appropriate mathematical concepts for target audience

Mathematics Instructor, University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Sep 2016 – Current

- Finite Math–Applied Linear Optimization, Probability and Statistics, Quality Control

SKILLS

- Technical Communication: Designing Lecture Material and Presenting, Writing Exams, Designing Curriculum
- Physics: Electromagnetic Theory, Thermodynamics, Mechanics, Quantum Mechanics, Statistical Mechanics, General Relativity, String Theory, Quantum Information, Error Analysis and Experimental Design, Analog and Digital Electronics, Scientific Writing
- Applied Mathematics: Analysis of Algorithms, Numerical Partial Differential Equations, Numerical Optimization
- Pure Mathematics: Differential Geometry, Abstract Algebra, Number Theory, Functional Analysis, Real Analysis, P-adic Analysis, Partial Differential Equations
- Programming Languages: C, Java, Visual Basic, Python, R, MATLAB, Mathematica
- High Performance Computing: Version Control (git), Supercomputing (Stampede, XSEDE), Parallel Programming, Unix Scripting, MPI
- Bioinformatics: Next Generation Sequencing Algorithms, Global and Local Alignment, Exact and Approximate Sequence Mapping, De novo Genome Assembly, Machine Learning, Bioconductor, Galaxy

EDUCATION

University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Master of Science (M.S.) in Physics

GPA: 3.86/4.0

Jan 2016 – May 2017

University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Bachelor of Science (B.S.) in Physics

Jan 2012 – Dec 2015

University of Massachusetts Dartmouth, 285 Old Westport Road Dartmouth, MA

Bachelor of Science (B.S.) in Mathematics

Jan 2012 – Dec 2015