

Fazle Rabby

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Education

- Texas Christian University, Fort Worth, TX, USA
 - PhD in Mathematics, 2019 Summer
 - Dissertation: Multiplicity Structures on Conics
 - Thesis advisor: Scott Nollet
 - Research area: Algebraic Geometry
 - MS in Mathematics, 2014 Spring
- Jahangirnagar University, Dhaka, Bangladesh
 - MS in Mathematics, 2012 Summer
 - Project: Gödel's Incompleteness Theorems
 - Advisor: M. Abdur Rab
 - BS in Mathematics, 2011 Summer

Research Interests

- Algebraic Geometry: Multiplicity Structures, Hilbert Schemes, Nonreduced Schemes, Linkage Theory
- Commutative Algebra: Minimal Free Resolutions, Cohen-Macaulay Rings

Publications

- Hilbert Scheme of Triple Conics in \mathbb{P}^3 (in preparation)
- Hilbert Scheme of Double Conics in \mathbb{P}^3 (in preparation)
- Multiplicity Structures on Conics, PhD dissertation, 2019, 152 pp, ISBN: 978-1088-37954-7
- Gödel's Incompleteness Theorems, MS project report

Academic Appointments

- 2019 Fall - present: Virginia Tech, Instructor

Teaching Experience

Operated as Instructor Of Record. Fully responsible for all aspects of the courses.

(I) Virginia Tech:

- (1) Vector and Complex Analysis [Math 4574]
(4 sections in total, Semesters: 2022-2023 Fall & Spring)
- (2) Linear Algebra I [Math 3144]
(1 section, Semester: 2023 Fall)
- (3) Modern Algebra [Math 3124]
(1 section, Semester: 2023 Summer II)
- (4) Introduction to Proofs [Math 3034]
(2 sections in total, Semesters: 2022-2023 Summer - I)
- (5) Introduction to Multivariable Calculus [Math 2204]
(2 sections in total, Semester: 2021 Fall)
- (6) Introduction to Linear Algebra [Math 2114]
(13 sections in total, Semesters: 2021-2023 Fall & Spring)

- (7) Calculus of a Single Variable, Part II [Math 1226]
(5 sections in total, Semesters: 2021 Summer II & Spring, 2020 Fall)
- (8) Calculus of a Single Variable, Part I [Math 1225]
(8 sections in total, Semesters: 2020 Fall & Spring, 2019 Fall)
- (II) Texas Christian University:**
 - (9) Applied Calculus [Math 10283]
(2 sections in total, Semesters: 2019 Spring, 2018 Fall)
 - (10) Applied Precalculus [Math 10273]
(5 sections in total, Semesters: 2017 Fall, 2014-2015 Fall & Spring)
 - (11) Topics in Mathematics [Math 10033]
(4 sections in total, Semesters: 2017-2018 Spring, 2016 Fall & Spring)

Selected Presentations

- Talks:
 - Linking double conics in \mathbb{P}^3 , Algebra Seminar at Virginia Tech, September 2021
 - Surfaces containing double conics in \mathbb{P}^3 , 99th Annual Sectional Meeting of the MAA, Stephenville, Texas, March 2019
 - Self-linkage of double conics in \mathbb{P}^3 , Graduate Algebra Symposium, University of Texas - Arlington, October 2018
 - Double structures on conics in \mathbb{P}^3 , Algebra Symposium, University of North Texas, April 2018.
- Posters:
 - Invariants of Triple Conics in \mathbb{P}^3 , Student Research Symposium, TCU, April 2019
 - Self-linkage of Double Conics in \mathbb{P}^3 , Texas Geometry and Topology Conference, Rice University, November 2018
 - Double Structures on Conics in \mathbb{P}^3 , Birational Geometry and Arithmetic, ICERM, Brown University, May 2018
 - Double Structures on Conics in \mathbb{P}^3 , Texas Algebraic Geometry Symposium, Texas A&M University, April 2018

Selected Workshops

- Commutative Algebra and its Interaction with Algebraic Geometry, MSRI Summer Graduate School at University of Notre Dame, June 2019
- Birational Geometry and Arithmetic, ICERM, Brown University, May 2018
- Algebraic Geometry Northeastern Series, Yale University, April 2016

Services at Virginia Tech

- Organizer and local supervisor of the Putnam competition at VT, 2023
- Chair of the VT Math Contest committee, AY 2023
- Coordinator of Introduction to Linear Algebra [Math 2114], AY 2023
- New Faculty Mentor, AY 2023
- Member of the Common Time Exam (CTE) writing approval committee, Fall 2023
- Organizer and Judge of the SIAM Southeastern Atlantic Section Annual Meeting, March 25-26, 2023
- Member of the math department Instructor Executive Committee, AY 2022
- Member of the Virginia Tech Regional Mathematics Contest committee, AY 2019-2022
- Proofreader for Introduction to Multivariable Calculus [Math 2204] Common Time Exam (CTE), 2022 Fall

- Mentor of the math GTA teaching certification program, AY 2021
- Writer of Common Time Exam (CTE) questions for Calculus of a Single Variable, Part I [Math 1225], 2021-2023 Spring
- Writer of Common Time Exam (CTE) questions for Calculus of a Single Variable, Part II [Math 1226], 2022-2023 Spring, 2021 Fall

Trainings & Certifications

- Experiences, barriers, and challenges for engaging international students in STEM, VT, 2023 Spring
- Mentoring Undergraduates in Research, VT, 2023 Spring

Technology

- Softwares: Magma, Mathematica, MATLAB, Microsoft Excel
- Typography and Graphics: \LaTeX , TikZ
- Learning Management System (LMS): Canvas, D2L