

Majid Mazrooei

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EDUCATION

Isfahan University of Technology

Ph.D. in Mathematics

March 2012

Dissertation: "A module theoretic approach to the study and generalizations of some extensions of commutative rings."

GPA: **18.13/20**

Isfahan University of Technology

M.Sc. in Mathematics

February 2007

Thesis: "On the algebraic structure of quasi-cyclic codes: repeated roots."

GPA: **18.96/20 (Ranked First)**.

Isfahan University of Technology

B.Sc. in Mathematics

September 2004

GPA: **18.61/20 (Ranked First)**.

AWARDS AND HONORS

- **First rank** among the mathematics undergraduate students in Isfahan University of Technology. **2000 – 2001**
- University Undergraduate Fellowship. **2000-2001**
Awarded to the best undergraduate students, IUT.
- **First rank** among the mathematics undergraduate students in Isfahan University of Technology. **2001 – 2002**
- University Undergraduate Fellowship. **2001-2002**
Awarded to the best undergraduate students, IUT.
- **First rank** among the mathematics undergraduate students in Isfahan University of Technology. **2002 – 2003**
- University Undergraduate Fellowship. **2002-2003**
Awarded to the best undergraduate students, IUT.
- **Graduated with the first rank** among the mathematics undergraduate students in Isfahan University of Technology. **2004**
- **12th rank** in the Iranian universities entrance exam of master degree. **2004**

- **Graduated with first rank** among the mathematics graduate students in Isfahan University of Technology. **2007**
- University graduate Fellowship. **2004-2007**
Awarded to the best graduate students, IUT.

- "High Talented Student" of Isfahan University of Technology.

2000-2012

EMPLOYMENT

Member of the Academic Board in the Department of Mathematics (University of Kashan)

2007-until Now

- Preparing and marking essays, assignments and examinations.
- Advising students (B. Sc., M. Sc., and Ph. D.) on academic and related matters.
- Attending departmental and faculty meetings, conferences and seminars.
- Supervising work programs of postgraduate students.
- Participating in setting course and degree requirements, curriculum revision and academic planning.
- Conducting research and undertaking consultancies in the field of algebraic coding theory.
- Stimulating and guiding class discussions.
- Publishing international-quality research.

- Undertaking administration roles in the department

Instructor (University of Kashan)

2011-until Now

Advanced Linear Algebra, Foundations of Mathematics, Calculus I, Calculus II, Ordinary Differential Equations, Engineering Mathematics, Algebra I, Topics in Algebra, The Theory of Rings and Fields, Advanced Algebra for Graduate Students, Game Theory, English for Mathematics Students, Topics in Rings and Modules, Coding Theory I, Coding Theory II, Advanced Lectures in Coding Theory.

Instructor (Islamic Azad University of Khorasgan)

2006-2012

Linear Algebra, Real Analysis, Graph Theory, Discrete Mathematics, Calculus I, Calculus II, Ordinary Differential Equations, Engineering Mathematics.

Teaching Assistant (Isfahan University of Technology)

2007-2012

Collaborated on curriculum and exam development, met with students upon request, and graded all written work, including final exam papers.

PUBLICATIONS AND PAPERS

• Papers

- A. Haghany, M. Mazrooei and M. R. Vedadi, "Pure projectivity and pure injectivity over formal triangular matrix rings", *Journal of Algebra and Its Applications*, Vol. 11, No. 6 (2012).
 - A. Haghany, M. Mazrooei and M. R. Vedadi, "Bounded and fully bounded modules", *Bull. Aust. Math. Soc.*, 84 (2011).
 - A. Haghany, M. Mazrooei and M. R. Vedadi, "On the Krull dimension of Endo-bounded modules", *Turk. J. Math.*, 37: 925-933, 2013.
 - A. Zaghian and M. Mazrooei, "Generalized Traceability Codes", *U.P.B. Sci. Bull., Series A*, Vol. 78, Iss. 2, 2016.
 - M. Mazrooei and A. Rafieepour, "On a Class of Linear Codes", *The Conference on Computational Algebra, Computational Number Theory and Applications, CACNA 2014*, University of Kashan, Iran.
 - M. Mazrooei, L. Rahimi and N. Sahami, "Two-dimensional generalized discrete Fourier transform and related quasi-cyclic Reed-Solomon codes", *Turk. J. Math.*, 42: 349-359, 2018.
 - M. Mazrooei and N. Sahami, "A generalization of Reed-Solomon Codes based on generalized discrete Fourier transform", Submitted (2018).
 - M. Mazrooei and A. rafieepour, "Some new constructions of linear codes", Submitted (2018).
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- **Books**

- M. Mazrooei, An Introduction to abstract algebra, University of Kashan Press (2017).
- M. Mazrooei, Essentials of game theory, translation to Persian, under review by University of Yazd Press (2017).
- M. Mazrooei, R. Kazemi and A. Nokhodkar, An Introduction to Multivariable Calculus, to be published by University of Kashan Press.

RESEARCH PROJECTS

- Prime ideals in quantum algebras, University of Kashan, 2016.
- Quasi-circles in finite Euclidean geometries and quasi-circle-based finite geometry LDPC codes, University of Kashan, in progress.
- Two-dimensional finite geometry codes, University of Kashan, in progress.

RESEARCH INTERESTS

- Algebraic Coding Theory.
 - Rings and Module Theory.
 - Game Theory.
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