

## A&M-**Texarkana** Faculty Webpage Template

**Name** Adnan Abdulwahid

**Title** Lecturer of Mathematics

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### Program Affiliations

MATH Program

**Brief Bio** (2–4 sentence paragraph giving a basic overall description of who you are at the University. This should be written so that it could be easily copied into a press release or brochure that involves you. As such, this description could include your current title, teaching and research areas, and other roles at the University.)

I am a Lecturer of Mathematics at Texas A&M University Texarkana teaching MATH 334: Introduction to Abstract Algebra, MATH 2413: Calculus I (for 2 sections), MATH 1316: Plane Trigonometry, MATH1342: Elementary Stat Methods, and MATH 430 Mathematical Modeling.

**Professional Experience** (2–4 sentence paragraph describing your professional positions before and during your time at A&M-**Texarkana**, including dates of promotions.)

- Lecturer of Mathematics, Texas A & M University-**Texarkana**, 2022-Present
- Math Instructor, Southern Arkansas University, 2021-2022
- Research Scholar (Research Visiting Assistant Professor), University of Iowa, 2019-2021
- Lecturer of Mathematics, Iowa State University, 2016-2017
- Assistant professor, University of Thi-Qar, 2017-2019
- Independent Math Instructor, University of Thi-Qar, 2005-2010

**Education** (2–4 sentence paragraph describing your educational credentials with the most recent listed first and each one including degree, institution, and year awarded.)

- 2014-2016 Ph.D. in Mathematics, University of Iowa
- 2011-2014 M.S. in Mathematics, University of Iowa
- 2002-2005 M.Sc. in Mathematics, College of Sciences, Al-Mustansiriya University
- 1998-2002 B.Sc. in Mathematics, College of Education, University of Thi-Qar, Jul 2002

**Teaching** (2–4 sentence paragraph describing your teaching – areas of specialty, a few of the classes that you regularly offer (titles alone are sufficient), your most popular or favorite classes, awards, etc.)

**Areas of specialty:** Mathematics, Algebra (*Hopf Algebras in Category Theory, Comodules and Corings*).

**Teaching Experience:**

- Lecturer of Mathematics (Texas A & M University-Texarkana)
  - MATH 334: Introduction to Abstract Algebra, Fall 2024
  - MATH 2413 (001): Calculus I, Fall 2024
  - MATH 2413 (002): Calculus I, Fall 2024
  - MATH 1342 (002): Elementary Stat Methods (001), Fall 2024
  - MATH 1316 (001): Plane Trigonometry, Fall 2024
  - MATH 1316 (002): Plane Trigonometry, Fall 2024
  - MATH 1316 (01W): Plane Trigonometry, Summer 2024 (Online)
  - MATH 2413 (001): Calculus I, Spring 2024
  - MATH 2413 (002): Calculus I, Spring 2024
  - MATH 1342: Elementary Stat Methods (001), Spring 2024
  - MATH 430: Mathematical Modeling, Spring 2024
  - MATH 1316: Plane Trigonometry, Spring 2024
  - MATH 380: Real Analysis, Fall 2023
  - MATH 2413 (001): Calculus I, Fall 2023
  - MATH 2413 (002): Calculus I, Fall 2023
  - MATH 2412: PreCalculus, Fall 2023
  - MATH 1316: Plane Trigonometry, Fall 2023
  - MATH 1316 (01W): Plane Trigonometry, Summer 2023 (Online)
  - MATH 2414 (01E): Calculus II, Spring 2023
  - MATH 2412 (01E): PreCalculus, Spring 2023
  - MATH 1316 (001): Plane Trigonometry, Spring 2023
  - MATH 1342 (001): Elementary Stat Methods, Spring 2023
  - MATH 1342 (002): Elementary Stat Methods, Spring 2023
  - MATH 1314: College Algebra, Fall 2022
  - MATH 1316 (01W): Plane Trigonometry (Online), Fall 2022
  - MATH 1342 (002): Elementary Stat Methods, Fall 2022
  - MATH 1342 (01W): Elementary Stat Methods (Online), Fall 2022
  - MATH 1324 Math for Bus & Soc Sciences I (001), Fall 2022
- Math Instructor (Southern Arkansas University)
  - MATH 2563 (001): Calculus III, Fall 2022
  - MATH 1545 (001) Calculus II, Spring 2022
  - MATH 1545 (004): Honors Calculus II, Spring 2022
  - MATH 2563 (001): Calculus III, Spring 2022
  - MATH 2563 (002): Honors Calculus III, Spring 2022
  - MATH 3033 (001): Differential Equations, Spring 2022
  - MATH 3033 (002): Honors Differential Equations, Spring 2022
  - MATH 2753(001): Linear Algebra, Spring 2022
  - MATH 2753(002): Honors Linear Algebra, Spring 2022
  - MATH 3043: Applied Probability & Statistics I, Fall 2021
  - MATH 1045: Pre-Calculus, Fall 2021
  - MATH 1033: Plane Trigonometry, Fall 2021
  - MATH 1525(001) Calculus I, Fall 2021
- Research Scholar (Research Visiting Assistant Professor) (2019-2021)  
(Department of Mathematics, University of Iowa)
- Lecturer of Mathematics (Department of Mathematics, Iowa State University)
  - Math 207: Matrices and Linear Algebra (Sec C, D), Fall 2016
  - Math 265: Calculus III (Sec U1, V1, W1), Fall 2016
  - Math 317: Theory of Linear Algebra (Sec C), Spring 2017
  - Math 165: Calculus I (Sec 27), Spring 2017
  - Math 265: Calculus III (Sec 5), Spring 2017
- Assistant Professor (Department of Mathematics, University Thi-Qar)
  - Group Theory II (2017-2019)
  - Ring Theory II (2017-2019)

**Scholarship & Creative Activity** (2–4 sentence paragraph describing your research and/or creative endeavors. This should highlight your most important published or produced works and may include current or planned projects.)

**Research Interests:** Hopf Algebras in Category Theory, Combinatorial Hopf Algebra, Comodules and Corings, Representation Theory of Quivers, Algebraic combinatorics, , combinatorics, Quantum Groups, Tensor categories, Topological Quantum Field Theory

**Published Papers**

1. **Partition Differential Equations and Some Combinatorial Algebraic Structures.** Mathematics 2024, 12, 3621. <https://doi.org/10.3390/math12223621>
2. **Bayer Noise Quasisymmetric Functions and Some Combinatorial Algebraic Structures.** CGASA (2024). Volume 21, Issue 1. Available Online [https://cgasa.sbu.ac.ir/article\\_104669\\_b2dd38f31d3918c0ee50708ef4570204.pdf](https://cgasa.sbu.ac.ir/article_104669_b2dd38f31d3918c0ee50708ef4570204.pdf)
3. **Bayer Noise Symmetric Functions and Some Combinatorial Algebraic Structures** (With Elgaddafi Elamami). JMA (2023) Volume 46, Pages 115-148. Available Online <https://journals.prz.edu.pl/jma/article/view/1527/1146>
4. **Digital  $\mathcal{L}_S^n$  –topological Spaces** (With Elgaddafi Elamami). BMAA (2022) Volume 14 Issue 3, Pages 1-19. Available Online <https://www.emis.de/journals/BMAA/repository/docs/BMAA14-3-1.pdf>
5. **Cofree Objects in The Centralizer and The Center Categories.** CGASA (2021). Volume 14, Number 1, January 2021, 1-37. Available Online [https://cgasa.sbu.ac.ir/article\\_100669\\_4c34698930621a134561e3dada358da3.pdf](https://cgasa.sbu.ac.ir/article_100669_4c34698930621a134561e3dada358da3.pdf).
6. **A Universal Investigation of n-representations of n-quivers.** CGASA. Volume 10, Pages: 69-106. 2019. Available Online [https://cgasa.sbu.ac.ir/article\\_63576\\_d0e433b72b5f2ad887b121defa6a4a09.pdf](https://cgasa.sbu.ac.ir/article_63576_d0e433b72b5f2ad887b121defa6a4a09.pdf).
7. **Generators for Comonoids and Universal Constructions.** (with Miodrag C Iovanov). Arch. Math. 106 (2016), 21–33, © 2015 Springer International Publishing, published online December 11, 2015, DOI 10.1007/s00013-015-0826-6. <https://link.springer.com/content/pdf/10.1007/s00013-015-0826-6.pdf>.

**Personalized Subheading** (e.g., “Professional Affiliations & Service,” “Honors & Awards,” “Grants,” “Teaching Philosophy,” “Media Appearances,” “Public Talks,” “Advising,” etc.)

■ **Professional Affiliations**

- Lecturer of Mathematics, Texas A & M University-Texarkana, 2022–Present
- Math Instructor, Southern Arkansas University, 2021–2022
- Research Scholar (Research Visiting Assistant Professor), University of Iowa, 2019–2021
- Lecturer of Mathematics, Iowa State University, 2016–2017
- Assistant professor, University of Thi-Qar, 2017–2019
- Independent Math Instructor, University of Thi-Qar, 2005–2010

■ **Conference Talks**

- Cofree Objects in The Centralizer and The Center Categories. Graduate Student Conference in Algebra, Geometry, and Topology. (The Second Annual). Temple University. Philadelphia, PA USA. May 15, 2016.
- Generators for Comonoids and Universal Constructions (with Miodrag C Iovanov). AMS Sectional Meetings, Fall Western Sectional Meeting, California State University, Fullerton, Fullerton, CA, October 24-25, 2015 (Saturday -Sunday), Meeting # 1114.
- Generators for Comonoids and Universal Constructions (with Miodrag C Iovanov). AMS Sectional Meetings, Central Fall Sectional Meeting, Loyola University Chicago, Chicago, IL, October 2-4, 2015 (Friday - Sunday), Meeting # 1112.
- Generators for Comonoids and Universal Constructions (with Miodrag C Iovanov). Third Conference on Geometric Methods in Representation Theory, University of Iowa, Iowa City, IA, November 24, 2014.

**Personalized Subheading** (e.g., “Professional Affiliations & Service,” “Honors & Awards,” “Grants,” “Teaching Philosophy,” “Media Appearances,” “Public Talks,” “Advising,” etc.)

### **Workshop**

- Mathematical Foundations and Algorithms for Tensor Computations. Workshop. Part of the Long Program Tensor Methods and Emerging Applications to the Physical and Data Sciences. May 3-6, 2021.
- paraDIGMS: Diversity in Graduate Mathematical Sciences. Workshop. Mathematical Sciences Research Institute. Online. April 23-26, 2021.
- paraDIGMS: Diversity in Graduate Mathematical Sciences. Workshop. Mathematical Sciences Research Institute. Online. November 20-23, 2020.
- Tensor Categories and Topological Quantum Field Theories. Workshop. Mathematical Sciences Research Institute. Online. March 16–20, 2020.

### **Technology and Innovative Education Conferences and Webinars**

- Council for Academic Technology and Innovative Education (CATIE), Texas A&M Chancellor’s Summit on Academic Technology to be held in person and virtually. Conference. June 24-25, 2024.
- Collaboration Opportunity for APLU Institutions. Webinar. June 13, 2024.

### **Seminar Talks**

- (1) Bayer Noise Symmetric Functions and Some Combinatorial Algebraic Structures, Southern Arkansas University (October 08, 2021)
- (2) The Hopf Algebra of Symmetric Functions, Iowa State University, Algebra and Geometry Seminar (January 30, 2020)
- (3) Ringel-Hall Algebras, University of Iowa Algebra seminar (November 09, 2020)
- (4) The Hopf Algebra of Symmetric Functions, Iowa State University, Algebra and Geometry Seminar (January 30, 2020)
- (5) Squarefree Monomial Ideals and Simplicial Complexes, University Thi-Qar, Mathematics Seminar (August 7, 2019)
- (6) The Group  $U(1)$  and Quantum Mechanics, University Thi-Qar, Mathematics Seminar (November 26, 2018)
- (7)  $n$ -representations of Quivers, University Thi-Qar, Mathematics Seminar (March 7, 2018)
- (8) Nakayama Functor and Quiver Representations, Iowa State University, Lie Theory Seminar (April 28, 2017)
- (9) Cofree objects in Centralizer and Center Categories (Talk 2), Iowa State University, Combinatorics/Algebra Seminar (October 17, 2016)
- (10) Cofree objects in Centralizer and Center Categories (Talk 1), Iowa State University, Combinatorics/Algebra Seminar (October 10, 2016)
- (11) Radical of Categories of Quiver Representations and Auslander–Reiten Quivers, University of Iowa Algebra seminar (February 29, 2016)
- (12) Irreducible Morphisms and Almost Split Sequences University of Iowa Algebra seminar (February 22, 2016)
- (13) Reflection Functors and Gabriel’s Theorem II University of Iowa Algebra seminar (December 7, 2015)
- (14) Torile and Monoidal Centers Categories University of Iowa, Algebra Student Seminar (November 18, 2015)
- (15) Torile Yang-Baxter operators in Monoidal Categories University of Iowa, Algebra Student Seminar (November 4, 2015)
- (16) Representations of Quivers University of Iowa, Algebra Student Seminar (September 9, 2015)
- (17) Frobenius Extensions and Corings, University of Iowa Algebra seminar (May 4, 2015)
- (18) On Separability of Functors University of Iowa Algebra seminar (April 6, 2015)
- (19) Galois Corings University of Iowa Algebra seminar (February 9, 2015)
- (20) Galois Comodules University of Iowa Algebra seminar (February 2, 2015)
- (21) Cofree Coalgebras in Other Monoidal Categories University of Iowa Algebra seminar (November 17, 2014)
- (22) Species and Their Representations Presentation for Topics on Algebra Class (November 14, 2014)
- (23) Free Objects in Certain Monoidal Categories University of Iowa Algebra seminar (November 10, 2014)

### **Undergraduate Advisor:**

- (2021-2022) Honors Students (Southern Arkansas University): I was an instructor for 4 Honors Courses. In addition,
- I was an advisor of honors students for the requirements of Honors courses, such as projects, presentations, and conferences.
- (Fall 2017) (Department of Mathematics, University of Thi-Qar)
- (2008-2009) (Department of Computer Science, University of Thi-Qar)

### **Programming Languages and Software**

- – GAP (Programming Language for computation in discrete abstract algebra)
- – MATLAB Programming Language
- – C++ Programming Language
- – Microsoft Office
- – LaTeX Programming
- – IBM SPSS (Statistics Software Program).
- – Statdisk (Statistics Software Program)
- – StatCrunch (Statistics Software Program)

**Technology**

- Mymathlab
- Webassign
- Blackboard
- Canvas
- INSWAN Document Camera application
- Online-teaching

**Excellence in Teaching Awards**

- Excellence in Teaching Award (2024) (nominated), sponsored by the Academic Honors Program (and judged by a committee composed primarily of Honors program students drawn from a variety of disciplines).

**Committees Works and Service:**

- The 2024 A & M Eagle Mathlete Contest, Texas A & M University-Texarkana (2024).
- The 2023 A & M Eagle Mathlete Contest, Texas A & M University-Texarkana (2023).
- Texas A & M University-Texarkana's Acadeum Implementation (course-sharing network facilitates online coursesharing among institutions that have similar curricular goals and academic quality standards), Texas A & M University-Texarkana (2023).
- Quality Enhancement Plan (QEP) (initiatives implemented by an institution of higher learning across its campus(s) to improve student learning), Texas A & M University-Texarkana (2023).
- Scientific Mathematics Committee, SMC, Southern Arkansas University (2021-2022).
- Arkansas Council of Teachers of Mathematics Committee's Member: I am a participant in creating the Calculus Virtual Contest for Spring 2022.
- Exam and Grading Committee (2006-2010), and (2016-2017), (2018-2019): we were responsible of collecting the exam books and hiding the students' names to make sure the instructors grade them fairly.
- Undergraduate Research Committee (2006-2009): our job was to discuss the projects of undergraduate students.
- Lab Services Committee: we were supplying the labs with their requirements to make sure they were working very well.

**Workshop organization:**

- Visual Math Workshop (The Second Annual), University of Thi-Qar (April 26, 2018). It is an undergraduate Students workshop. In this workshop, I was an advisor for about % 90 of the math undergraduate Students. I used Carter's book: (Visual Group Theory) to show the students how visualizing math concepts is important to get a deep understanding for mathematics notions. Students were interestingly working as groups on projects that are applications of Cayley diagrams.