## HOW TO USE THIS MAP

- UToledo's Major Map is a guide for you to plan for future success while you explore your University experience. The five rows of the map provide a step-by-step guide to integrate your academic courses with experiences on and off-campus that will help build your career readiness.
- Start thinking about life beyond college now and use the map to set short- and long-term goals, such as preparing for graduate or professional schools, preparing for your first career-track job and networking with others in your profession.

## RESOURCES FOR SUPPORT

From orientation to graduation, there are many resources to support your University experience.

Your success coach is like your personal GPS. As you navigate from where you are to where you want to be, coaches offer one-on-one guidance and support through referrals to academic support services and other campus resources, and connections to campus engagement and experiential learning opportunities. Visit utoledo.edu/successcoach to connect with your success coach.

Career Services provides comprehensive career planning and preparation services for all UToledo students in order to clarify and implement their academic and career goals. Connect with Career Services during your first year and continue working with them often throughout your academic career. Visit **utoledo.edu/career** to learn more about the programs, services and events to support your success.

## BUILD YOUR EXPERIENCE BEYOND THE CLASSROOM

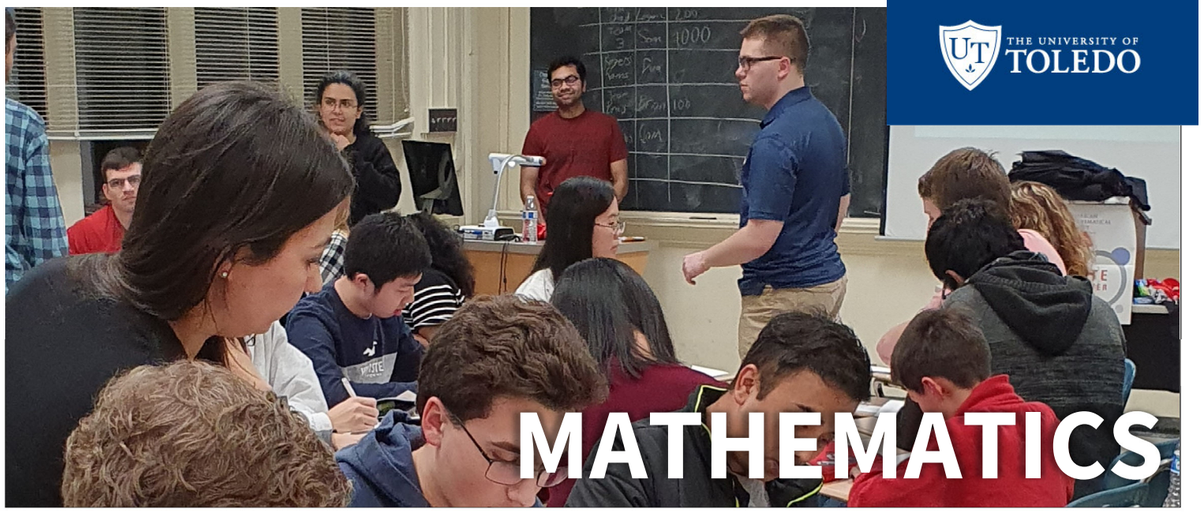
The department offers multiple opportunities for students to engage in the work of statisticians outside the classroom. Faculty are open to guiding you through undergraduate research projects that allow you to become involved in mathematical research and can lead to honors projects in mathematics. Recent topics have included studies in combinatoric, graph theory, knot theory and persistent homology.

We support extracurricular activities through student organizations such as ΔX, one of UToledo's oldest student organizations, by hosting lectures and math quiz nights in conjunction with the mathematics honor society, ΠΜΕ, and the AMS student chapter.

**COLLEGE OF NATURAL SCIENCES AND MATHEMATICS**
Department of Mathematics & Statistics
Main Campus, University Hall, Room 2040
419.530.2568
utoledo.edu/nsm/mathstats

THE UNIVERSITY OF TOLEDO

FUELING **TOMORROWS**



# MATHEMATICS

## TOP FIVE REASONS TO STUDY MATHEMATICS AT UTOLEDO

**1** Experiential learning through hands-on undergraduate research, as early as your first year, working directly with faculty that are experts in their field.

**2** Solve real-world problems that arise in business, industry and government.

**3** Intern in business, industry and government - locally and around the U.S.

**4** Choose from either a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) degree program with a wide range of concentrations to choose from.

**5** The job outlook for UToledo's math majors is bright. Five of the top 10 professions in 2021 were math-intensive, according to *CareerCast.com's* Jobs Rated report.

## PUTTING YOUR DEGREE TO WORK

- Aerospace & transportation
- Chemical manufacturing
- Climate change
- Communications
- Education
- Financial services
- Information technology
- Medicine
- National security
- Professional services
- Research
- Robotics

## AMPLIFY YOUR MAJOR

- Mathematics students often double-major in physics or chemistry.
- Get involved in undergraduate research, it can make you stand out and you may also have the opportunity to present and publish your research results.

**"I learned how to develop my creative ideas and intuitions into formal statements and clear exposition through research. My thesis aimed at building connections between two seemingly unrelated areas of mathematics – geometry and number theory –through geometric and topological objects such as knots."**

BRIAN GROVE, Ph.D. Candidate/Graduate Teaching Assistant, Louisiana State University, B.S. Mathematics – Pure Mathematics, '20

FA2022

2022-23

# Mathematics

College of Natural Sciences and Mathematics

THE UNIVERSITY OF TOLEDO

| | 1ST YEAR | 2ND YEAR | 3RD YEAR | 4TH YEAR |
|---|---|---|---|---|
| **EXPLORE YOUR MAJOR AND CAREER PATHWAYS** | In the first year, you will have the chance to explore foundational courses such as:<br><br>ENGL 1110 College Composition I<br>MATH 18xx Calculus I & II<br><br>Meet with your academic advisor to learn more about your plan of study. | Explore undergraduate research opportunities or volunteer opportunities available with groups such as the UToledo Student Green Fund or Building Ohio's Sustainable Energy Future (BOSEF).<br><br>Continue working on core requirements as well as your major requirements: B.A. Mathematics – Pure Math or Applied Math or B.S. Mathematic – Pure Math, Applied Math, Computer Science or Data Science. | Meet with your academic advisor to make sure you are on track for graduation and have planned out your courses for next year. | Be sure to finish up all your courses for your major and any optional minor and/or additional major(s).<br><br>Final courses include advanced level courses and remaining electives needed - all preparing you for your future after graduation.<br><br>Need to take the GRE? Start here. |
| **CONNECT WITH OTHERS AND BUILD COMMUNITY** | Attend the Student Involvement Fair in early fall; explore over 400 student organizations and attend campus events.<br><br>Consider joining a fraternity or sorority and getting involved in Greek Life.<br><br>Working on campus is a great way to meet others. Attend the Job Fair to learn about campus jobs! | Explore organizations that complement your major. Many colleges have academic-focused organizations. Learn more on InvoNet.<br><br>Community service is a great way to get experience as well as give back to the community. Consider joining a volunteer organization. | Join a professional association related to your interests or career development.<br><br>Attend networking and professional development events. | Present your research at a research exhibition on campus. Consider attending and presenting your work at a regional or national conference with a faculty member for networking and exploring career opportunities.<br><br>Be sure to include these experiences in your resume: community service, student leadership, organization membership and philanthropic efforts. |
| **BUILD YOUR SKILLS THROUGH EXPERIENCE** | Meet with a faculty member to discuss creative ways to volunteer or intern in your area of interest.<br><br>Consider opportunities outside of the classroom. Join a student organization such as:<br><br>▪ Global Medical Brigades<br>▪ Delta X Math Club | Improve your study strategies and visit the Learning Enhancement Center.<br><br>Explore summer job opportunities related to your major by scheduling a meeting with Career Services.<br><br>Consider applying to the Office of Undergraduate Research Summer Research and Creative Activities Program to earn a research scholarship. | Consider doing research with a faculty member. UToledo students often apply for and receive funding for their research and present their results at conferences.<br><br>Apply for funding through the Office of Undergraduate Research and find information about additional opportunities. | "Employment in math occupations is projected to grow 29 percent from 2021 to 2031, much faster than the average for all occupations... The median annual wage for this group was $98,680 in May 2021."- BLS<br><br>Investigate internships or full-time jobs related to careers of interest by attending events for graduating seniors sponsored by Career Services. |
| **ENGAGE IN AN INCLUSIVE GLOBAL PERSPECTIVE** | Get to know people who are different from you. Connect with the Office of Multicultural Student Success (OMSS) by attending OMSS History and Heritage Month events.<br><br>Learn another language or culture to develop new perspectives and build your marketable skills. Visit World Languages and Cultures for more information. | Connect with the Education Abroad Office to learn more about the opportunities to live and learn in a different country. Meet with your advisor to see how your credit will transfer and discuss the best time to study away.<br><br>Consider completing the OMSS Student Diversity Certificate program.<br><br>Attend events sponsored by the Office of Diversity, Equity and Inclusion. | Join an international student organization to learn more about other cultures.<br><br>Attend the I-Village event or I-Dinner, two premier UToledo international events. | Build your intercultural competencies by learning more about diversity, equity and inclusion through the Office of Multicultural Student Success and the Office of Diversity, Equity and Inclusion programs. |
| **PREPARE FOR POST-GRADUATION** | Complete your Handshake Profile (use your UTAD log-in credentials).<br><br>Explore What Can I Do With This Major? and Candid Career to learn about career paths and employers within your field of study.<br><br>Meet with Career Services to begin developing your resume and a plan to get career ready. | Utilize Handshake and InvoNet to find opportunities to meet employers and expand your network by attending career fairs and other events.<br><br>Meet with Career Services to update your resume and LinkedIn profile. | Use Handshake to apply to part-time jobs, internships or externships to gain practical and relevant experience.<br><br>Gain interviewing skills with Big Interview or schedule an appointment with Career Services for a mock interview.<br><br>Join groups on LinkedIn reflecting specific careers or topics of interest in mathematics. | Solidify post-graduate plans.<br><br>Get help from your academic advisor, faculty and Career Services with job searching, resumes, interviews and graduate school applications.<br><br>Learn about co-op's, internships, career opportunities and more through the American Mathematical Society (AMS). |

## WHAT WILL I LEARN?

Develop your career readiness competencies to ensure you are prepared to launch your career upon graduation:

- Career & Self Development
- Communication
- Critical Thinking
- Equity & Inclusion
- Leadership
- Professionalism
- Teamwork
- Technology

## HOW WILL I USE IT?

Use your degree to attain career positions such as:

- Applied mathematician
- Applied scientist
- Associate data scientist
- Cloud application architect
- Data scientist
- Front end developer
- IT manager
- Instructor
- Modeler
- Operations research analyst
- Product security architect
- Quantitative research analyst
- Question coder
- Research associate
- Scheduler crew
- Senior budget analyst
- Senior data analyst
- Supply planner
- Tester/content developer
- Underwriting assistant