HOW TO USE THIS MAP

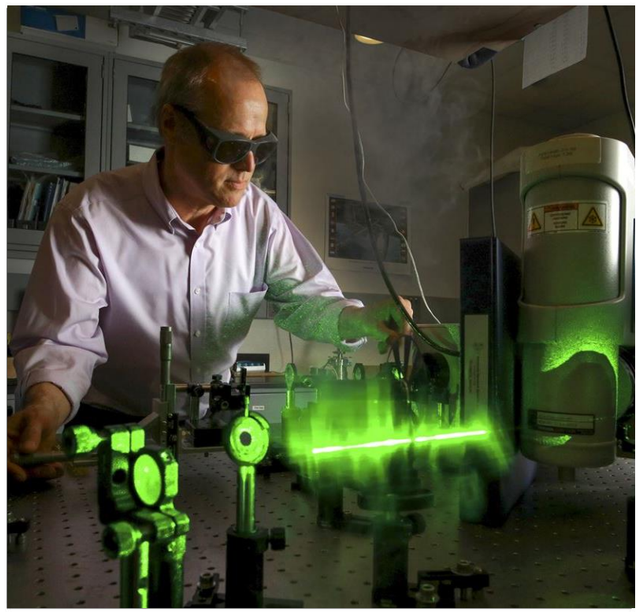
- UToledo's Major Map is a guide for you to plan for future success while you explore your University experience. The five rows of the map provide a step-by-step guide to integrate your academic courses with experiences on and off-campus that will help build your career readiness.
- Start thinking about 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

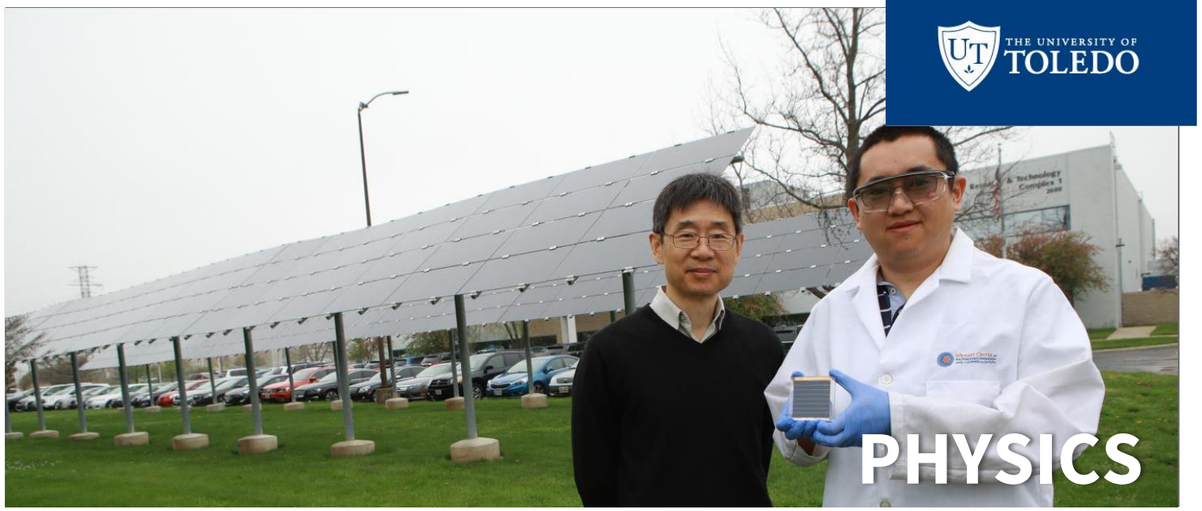
Experiential learning exists through faculty research opportunities and is built into the B.A. and B.S. degree program through the senior capstone project. The skill sets you develop include hypothesis driven research, data acquisition and handling, as well as presentation of those results. These skills are highly sought after when applying for internship programs with industry and national laboratories or applying for M.S., Ph.D. and professional graduate degree programs and jobs. These opportunities prepare you for careers in science, technology and engineering in the academic, industrial, medical and research sectors including those in photovoltaics, semiconductors, medical physics, data science and technology development.

COLLEGE OF NATURAL SCIENCES AND MATHEMATICS
Department of Physics and Astronomy
Main Campus, McMaster Hall, Room 2017
419.530.2241
office@mail.physics.utoledo.edu
utoledo.edu/nsm/physast

THE UNIVERSITY OF TOLEDO

FUELING **TOMORROWS**

THE UNIVERSITY OF TOLEDO



PHYSICS

TOP FIVE REASONS TO STUDY PHYSICS AT UTOLEDO

1 Work one-on-one with faculty members that are actively engaged in leading-edge research with the U.S. Air Force Research Laboratory, U.S. Department of Energy and colleagues around the world.

2 Experiential learning through hands-on undergraduate research as early as your first year, with paid summer research positions also possible.

3 Access to high-tech labs such as the Toledo Heavy Ion Accelerator Lab, Ohio Supercomputer Center and Wright Center for Photovoltaic Innovation and Commercialization.

4 Study abroad during your junior year in a year-long exchange program with The University of Salford in Manchester, England. All courses transfer seamlessly.

5 Choose from either a Bachelor of Arts (B.A.) in Physics or Bachelor of Science (B.S.) in Physics degree program.

AMPLIFY YOUR MAJOR

- Get involved in undergraduate research to gain unique experience and professional skills to set you apart from others in career searches or with applications to graduate degree programs.
- Explore opportunities to present and publish your research results at regional or national conferences where you can meet others with related goals and interests.
- Consider adding a minor in mathematics, renewable energy, data science or biology.

PUTTING YOUR DEGREE TO WORK

- Aviation & Aerospace
- Biotechnology
- Consumer Electronics
- Defense & Space
- Electrical & Electronics
- Government Agencies
- Higher Education
- Hospital & Health Care
- Logistics & Supply Chain
- Medical Devices
- Medical Physics
- Semiconductors
- Solar Energy Technology

"As a research student at UToledo, I was able to expand my skillset, bridging physics with business management, to cultivate a versatile expertise that I use in the photovoltaics industry to-date. UToledo gave me the knowledge and space to exercise skills learned in-class and apply them to projects in-lab, in the field with networking teams and in a real industry setting."

A.J. MATTHEWS, Research Physicist, Toledo Solar, B.S. Physics, '13/P.S.M. Photovoltaics, '15

2022-23

Physics

Department of Physics and Astronomy

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 the foundations of Physics along with some electives: PHYS 1910 Frontiers of Physics & Astronomy PHYS 2130 Physics for Science & Engineering Majors I Meet with your academic advisor to learn more about your plan of study.	Start to dive deeper into the discipline of Physics. Explore undergraduate research or volunteer opportunities available with the American Physical Society (APS), UToledo Student Green Fund or Building Ohio's Sustainable Energy Fund (BOSEF). Continue working on core requirements as well as your major requirements: B.A. Physics or B.S. Physics – Physics, Applied Physics or Medical Physics concentration.	Meet with your academic advisor to make sure you are on track for graduation and have planned out your courses for the next year. Complete major upper-level physics courses including Modern Physics, Thermal Physics, Theoretical Mechanics and Electricity & Magnetism as well as lab courses.	Be sure to finish up all your courses for your major and any optional minor and/or additional major(s). Final courses include the Undergraduate Professional Development Seminar and Senior Capstone Project - both preparing you for your future after graduation. 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. Consider joining a fraternity or sorority and getting involved in Greek Life. 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. Community service is a great way to get experience as well as give back to the community. Consider joining a volunteer organization.	Consider doing research with a faculty member. UToledo students often apply for and receive funding for their research and present their results at conferences. Check out the Office of Undergraduate Research to lean more. Join a professional association related to your interests.	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. 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 Physics faculty member to discuss creative ways to volunteer or intern in your area of interest. Consider opportunities outside of the classroom. Join a student organization such as: ▪ Building Ohio's Sustainable Energy Future (BOSEF) ▪ Society of Physics Students	Improve your study strategies and visit the Learning Enhancement Center. Explore summer job opportunities related to your major by scheduling a meeting with Career Services. Consider applying to the Office of Undergraduate Research Summer Research and Creative Activities Program to earn a research scholarship.	Interested in undergraduate research? Apply for funding through the Office of Undergraduate Research. Explore internship opportunities at the Wright Center for Photovoltaics Innovation and Commercialization (PVIC), the Ritter Planetarium, faculty research groups and other local organizations.	"Overall employment of physicists and astronomers is projected to grow 8 percent from 2020 to 2030, about as fast as average for all occupations."-BLS Investigate internships or full-time jobs related to careers of interest by attending events for graduating seniors sponsored by Career Services. Review Careers in Physics & Astronomy for more resources and career information.
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. 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. Consider completing the OMSS Student Diversity Certificate program. Attend events sponsored by the Office of Diversity, Equity and Inclusion.	Join an international student organization to learn more about other cultures. 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 OMSS and the Office of Diversity, Equity and Inclusion programs.
PREPARE FOR POST-GRADUATION	Complete your Handshake Profile (use your UTAD log-in credentials). Explore What Can I Do With This Major? and Candid Career to learn about career paths and employers within your field of study. 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. 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. Gain interviewing skills with Big Interview or schedule an appointment with Career Services for a mock interview. Join groups on LinkedIn reflecting specific careers or topics of interest in physics.	Solidify post-graduate plans. Get help from your academic advisor, faculty and Career Services with job searching, resumes, interviews and graduate school applications. Learn about co-op's, internships, career opportunities and more through the American Physical Society (APS).

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:

- Algorithm engineer
- Biophysicist
- Data analyst/scientist
- Entrepreneur
- Failure analysis engineer
- Lab manager
- Medical physicist
- Metrologist
- Optical engineering manager
- Physicist
- Physics researcher
- Process engineer
- Product marketing manager
- Production test engineer
- Professor
- Programmer analyst
- Project manager
- PV research scientist
- Research professor
- Scientist
- Systems analyst
- Technical staff member