

CHANGEMAKERS at SIUE

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE



WHY SURVEYING AND GEOMATICS
is the Best Degree Choice
You Haven't Considered Yet

Ready to learn skills that directly apply to real-world careers?

Looking for a college degree that won't bury you in debt?

Seeking a program that sets you up for a great job after graduation?

Look inside
to find out
what's next.



WELCOME TO

SURVEYING AND GEOMATICS

AT SIUE



Southern Illinois University Edwardsville offers a comprehensive four-year surveying and geomatics degree designed to equip students with the skills and knowledge needed for success in land surveying, mapping and geospatial analysis.

This unique, interdisciplinary program combines traditional surveying techniques with modern technological advancements like geographic information systems (GIS), remote sensing and GPS technologies.



The degree affords numerous benefits, **including access to hands-on fieldwork, the latest industry software and gadgets, helpful faculty members, and professional mentoring guidance. Graduates leave well prepared for their careers.** From land development and construction to environmental management and urban planning – you can accomplish so much with a surveying and geomatics degree.

With a strong foundation in both theoretical and practical applications, SIUE's program positions students for licensure and long-term success, helping shape future infrastructures with sustainable growth.

Pursuing a surveying and geomatics degree at SIUE will open doors to a growing field that blends science, technology and innovation. Come be a part of the only program of it's kind within 300 miles, and take advantage of job placement opportunities for you in St. Louis, Chicagoland and the Midwest!



Why Choose Surveying and Geomatics at SIUE?



Discover a wide variety of in-demand career choices



Earn debt-free education possible through scholarships and work opportunities



Experience integration of real-world experience with classroom studies



Land a job through program partnerships with hiring companies



Engage with relevant curriculum using the latest technology



Work outdoors, problem solve, make an impact



CURRICULUM AND HANDS-ON LEARNING

The surveying and geomatics program at SIUE offers a comprehensive curriculum that balances technical theory with extensive hands-on learning opportunities. Students gain foundational knowledge through coursework in the arts, sciences and business, with specialized courses in surveying, land development and geographic information systems.

Innovative Curriculum

For a full list of specific program requirements and course listings, check out our [surveying and geomatics course page](#). In the meantime, here are some highlights:



Surveying Fundamentals

This introductory course covers the principles and techniques of land surveying, including distance measurement, leveling and angle measurement. Students will learn how to use surveying equipment such as theodolites and total stations while gaining hands-on experience in data collection and mapping.



Construction Material and Methods

This course introduces students to the fundamental materials and methods used in contemporary construction. Topics include the properties and uses of concrete, steel, wood and other common materials, as well as construction methodologies and best practices. Students will explore how materials impact the design and functionality of structures, and will touch on surveying applications in construction.



Natural Resource Management and Sustainability

Focusing on the sustainable management of natural resources, this course covers topics related to land use, environmental impact and conservation strategies. Students will learn how surveying techniques contribute to resource management and planning to ensure sustainable development in industries like agriculture, forestry and land/urban development.



Boundary Surveying

This course examines the legal and technical aspects of boundary determination. Students will study property rights, land ownership laws and methods for defining and making boundaries. Emphasis is placed on research, documentation and fieldwork for accurate boundary surveys.



Cartography

Students in this course explore the art and science of mapmaking. This includes the design, production and interpretation of maps. Topics include scale, projections and spatial data representation, with an emphasis on using GIS software to create professional-quality maps.



Quantitative Techniques

This third-year course introduces students to the quantitative research methods used in spatial analysis and planning. Students learn how to collect, analyze and interpret non-numerical data, which can be used to complement quantitative techniques in surveying and geomatics projects.



Advanced Surveying Systems

Building on foundational surveying courses, this class focuses on advanced technologies like GPS, LiDAR and unmanned aerial systems. Students will discover how these tools enhance accuracy and efficiency in modern surveying applications, preparing them for complex geospatial projects.



Surveying Computations and Applications

This course covers the computational methods used in surveying, including coordinate geometry, data analysis and error reduction techniques. Students will apply these methods to real-world projects, learning how to process and present accurate surveying data for use in engineering, construction and land development.



Hands-On Experience

A key strength of SIUE's surveying and geomatics program is its emphasis on applied learning. Here, students regularly work with the latest tools and technologies used in the industry, including GPS systems, unmanned aerial vehicles (UAVs or drones) and remote sensing technologies. These components are discussed in the classroom, and students use them extensively. This enables students to master the tools they will encounter in their professional careers.

Fieldwork is another significant part of the program that allows students to engage in outdoor surveying projects simulating real-world conditions.

Additionally, our experienced faculty members who bring years of professional knowledge and cutting-edge research to the program, mentor students through real-world projects and internships.

SIUE's surveying and geomatics program is partnered with local surveying companies and communities to provide students with internship opportunities that give them practical experience which builds valuable industry connections. Our partnered employers are ready to provide you with paid internships opportunities and a full-time employment upon your graduation.

With our well-rounded curriculum and hands-on learning experiences, SIUE's surveying and geomatics program ensures that graduates enter the workforce with both technical expertise and practical experience required to excel in this dynamic and evolving profession.

STUDENT STORY



Hunter Mantz

Current SIUE Student

Hunter Mantz is a current student at SIUE. He began his education in construction management before switching to surveying and geomatics. He enjoys his internship role at Prairie Engineers. Hunter connected with this company at the department's annual networking night.

The fundamentals of surveying and cartography taught in the surveying and geomatics coursework has provided Hunter with valuable insights in field activities that equip him with the necessary skills needed to succeed.

Hunter's internship experience presented him with the opportunity to perform tasks he never thought he could do as an intern. He boasts of conducting hydrographic surveys on the Mississippi and Missouri Rivers. He looks at his internship with fondness, finding that he enjoyed his work and the friendly people he worked with. His incredible experiences confirmed to him that he was on the right track with his career goals.

Of course, success does not come without its challenges. For Hunter, that challenge was adjusting to different workflows and timelines for each professor. He shares that the best that you can do in these situations is "to manage their expectations for yourself."

Hunter's advice to students who seek this professional path is to be open to all possibilities this program has to offer and never write things off by thinking it is not achievable. If he has found this once in a lifetime opportunity and experience, so can you. In the end, he recommended SIUE's surveying and geomatics program wholeheartedly, noting the school's excellent value for education.

Hunter is keeping his career path open. He considers becoming a professional land surveyor, but also SIUE's surveying and geomatics program has broadened his scope in diverse career opportunities.

“

My very first internship experience was something I never imagined. It offered a me great value. SIUE's surveying and geomatics program has been good to me!

”



A JOB IS WAITING FOR YOU

The surveying and geomatics degree from SIUE opens doors to a wide variety of exciting and in-demand career paths with **reputable employers**. Graduates can pursue roles like **land surveyor, GIS analyst, cartographer, geospatial engineer, mapping technician and more.**

These professionals are invaluable in sectors like **land development, construction, environmental management, urban planning and transportation.** With their ability to collect, interpret and analyze spatial data, they contribute to the development of infrastructure, property boundaries and ethical natural resource management.

QUICK Facts: Surveyors

 2023 Median Pay	 Typical Entry-Level Education	 Work Experience	 On-The-Job Training	 Number of Jobs 2023	 Job Outlook 2023-33	 Employee Change/yr
\$68,540/ yr \$32.95/ hr	Bachelor's degree	None needed	Internship/residency	52,600	6% (Faster than average)	+3,100

The demand for skilled professionals in surveying and geomatics continues to rise.

According to the **U.S. Bureau of Labor Statistics**, employment of surveyors is projected to grow by 6% from 2023-2033, while demand for cartographers and photogrammetrists is also expected to grow by 6% in the same period.

Graduates with a degree in surveying and geomatics can expect some competitive salary ranges, with entry-level positions averaging between \$55,000 and \$65,000 annually. As professionals gain experience and licensure, salaries can exceed \$100,000 annually.

For women entering the field, the earning potential is even higher, as they often outpace their male counterparts in salary growth over time. As such, this is an especially promising career path for women in STEM.

The increasing need for accurate geospatial data in urban planning, environmental monitoring and global positioning technologies continues to fuel this explosive growth.

Graduates of SIUE's program are also well-positioned for licensure as professional land surveyors – a credential that significantly enhances career prospects and earning potential. Beyond traditional surveying, professionals in this industry are increasingly involved in the development of the latest technologies and techniques. This could include drone mapping, 3D modeling and geographic information systems – offering numerous opportunities for innovation and career advancement.

Whether you're passionate about preserving natural landscapes, improving public infrastructure or advancing geospatial technology, a degree in surveying and geomatics offers both stability and versatility. SIUE's strong network of industry partnerships and focus on practical experience prepare graduates for the growing demands of this vital field.

FEATURED EMPLOYER

Mark Wood never planned on being a land surveyor. Originally, he studied for a career in land management. Several years into his degree, though, he noticed there were very few job openings in the field, and decided to take a break from schooling to figure out where to go from there.

During this break, he started working with a friend in the land surveying field, and the rest is history. Though the job was a good match for his skill set, what he really fell in love with was the freedom of working in the great outdoors.

As of today, Wood has worked in the surveying field for nearly 50 years, with over 30 of those years spent at American Surveying and Engineering (ASE). He currently works as VP of operations, helping to guide the company's shift from surveying to a surveying and engineering firm.

Though the surveying profession is as important as ever, the bulk of its manpower is getting older and aging into retirement, with Wood being partially retired himself. As such, he has developed a strong interest in developing the next generation of surveyors to address the current shortage of workers. ASE frequently takes on college interns, teaching them a variety of skills for field and office work alike. Often, those interns will find a fulfilling long-term career at ASE after graduation.

Wood often notes that there's a huge amount of demand for young, well-educated land surveyors not just at ASE, but throughout the nation. He hopes anyone and everyone who's interested in surveying will get the chance to enter the field, and encourages those who do to stick with it.



Mark Wood

47-Year Industry Veteran Surveying Professional at
American Surveying & Engineering, P.C.

“

There is high demand in the job market. Everybody is looking for people who are well educated, that have a good understanding of what it takes to be a land surveyor.

”



FINANCIAL AID, SCHOLARSHIPS AND A SMART INVESTMENT IN YOUR FUTURE

SIUE's surveying and geomatics program not only prepares students for successful, rewarding careers, it also provides a pathway to achieving financial goals. With scholarships and dedicated job placement services, students can focus on their education without the burden of excessive debt.

Scholarship Opportunities

SIUE offers a range of scholarships specific to students in the surveying and geomatics program. These scholarships are designed to recognize academic achievement and provide financial support throughout the course of study.

In addition to university-wide scholarships, there are 17 new scholarships available for students pursuing a surveying and geomatics degree. These opportunities help ease the financial burden while ensuring students have access to the resources they need to thrive. For more information, [visit our scholarships page](#).



Graduate Debt-Free

SIUE's commitment to student success includes helping students find ways to graduate with less debt. Students are encouraged to take advantage of the university's strong relationships with [partner companies](#) and government agencies, which offer paid internships and co-op positions.

These experiences provide professional development and allow students to earn income while completing their degree.

Moreover, scholarships and financial aid are available to help cover the cost of tuition and fees, further reducing the need to rely on student loans. And, [in-state tuition is available to students from all 50 states](#).

By applying for scholarships and engaging in internships, students can substantially lower their overall debt and potentially graduate without owing any student loans. For more tips on how to graduate debt-free, [visit our financial aid page](#).

Job Placement Assistance

SIUE also offers robust job placement assistance to help graduates smoothly transition into the workforce. With several connections in both the St. Louis and Chicagoland areas, the university helps students and alumni secure positions with leading companies in surveying, engineering and geospatial technology.

The [Career Development Center](#) offers resume-building workshops, mock interviews, facilitates job fairs and one-on-one career counseling. The sole purpose of these services is to help students find rewarding careers after graduation.



ALUMNI STORY



Chris Reeves

Recent SIUE Graduate

Though originally an engineering student, Chris Reeves found his calling as a land surveyor while taking Fundamentals of Surveying at SIUE. Though he understood the basic concepts of surveying beforehand, he had always viewed the career as simply walking around with a few instruments and taking notes. After learning about the fascinating depth of surveying and geomatics, he found himself completely enraptured.

From that moment forward, he knew what he wanted to do. When asked about one of his greatest challenges as a student at SIUE, Reeves stated that it was “the courses outside of surveying, because once I got a grasp of what I wanted to do, everything else wasn’t as intriguing as surveying.”

During his time as an undergraduate at SIUE, Reeves began an internship with Sherrill Associates, a surveying firm, where he developed his skills as a surveyor across the Midwest. Upon graduating in 2022, he would go on to work with them full-time.

Reeves notes that his combined experiences in the classroom and in the field as an intern are what prepared him for the career he has today. The things students “learn in class are not going to be exactly the same once you get out in the field.” For those like Reeves who enjoy the “scavenger hunt,” surveying and geomatics is an exciting opportunity well worth taking.

“

Surveying is almost like a scavenger hunt. Everything from plotting to the history, it’s fun.

”

YOUR NEXT STEPS!

Ready to take the next step toward a fulfilling career in
Surveying and Geomatics?

Apply today to Southern Illinois University Edwardsville
and take the reins of your future.



siue.edu/apply



**Schedule a
Campus Visit**

**Learn more about
Surveying and
Geomatics**

Apply Now

We're available and eager to help!

Discover how SIUE can align with your goals and provide the
hands-on learning experience you need to succeed.
Take action now by applying or requesting more information.

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The SIUE Statement on Diversity reflects SIUE's commitment
to recognizing and valuing the contributions of the breadth of humankind.