

Vincennes University Surveying Technology Information at a Glance

- **PROGRAM AVAILABILITY:** Only university in Indiana offering a Surveying degree.
- **COURSE CONTENT:** Instrumentation, computer software, surveying theory and computations.
- **CLASS SIZES:** 12-16 students.
- **HANDS-ON STUDY:** Projects start within a couple weeks of each semester.
- **LECTURE TO LAB RATIO:** 1 hour lecture to 2-3 hours lab.
- **EQUIPMENT:** Automatic levels to robotic total stations to scanners to drones.
- **COMMUNITY:** Surveying students develop strong relationship with their classmates that often last beyond graduation.
- **INTERNSHIPS and EMPLOYMENT:** Facilitated by the program.
- **TITLE UPON GRADUATION:** Surveying Technician
- **JOB OPPORTUNITIES:** 100% placement.
- **STARTING PAY:** \$18 - \$22 an hour.
- **FUTURE OPPORTUNITIES:** Professional Licensure possible upon meeting all requirements. Once licensed, you may start your own surveying company or continue to work for others. Expected salary of licensed individuals is approximately \$60,000 a year working for governmental-type offices or small companies. Being employed by larger companies or owning your own business yields annual salaries closer to \$100,000+.
- **FAMOUS SURVEYORS:**
 - George Washington
 - Benjamin Banneker
 - Thomas Jefferson
 - Daniel Boone
 - Henry David Thoreau
 - Abraham Lincoln

For a great overview of the surveying profession, view our online video *Be a Surveyor, Map the World* on YouTube's Vincennes University Surveying Technology channel.

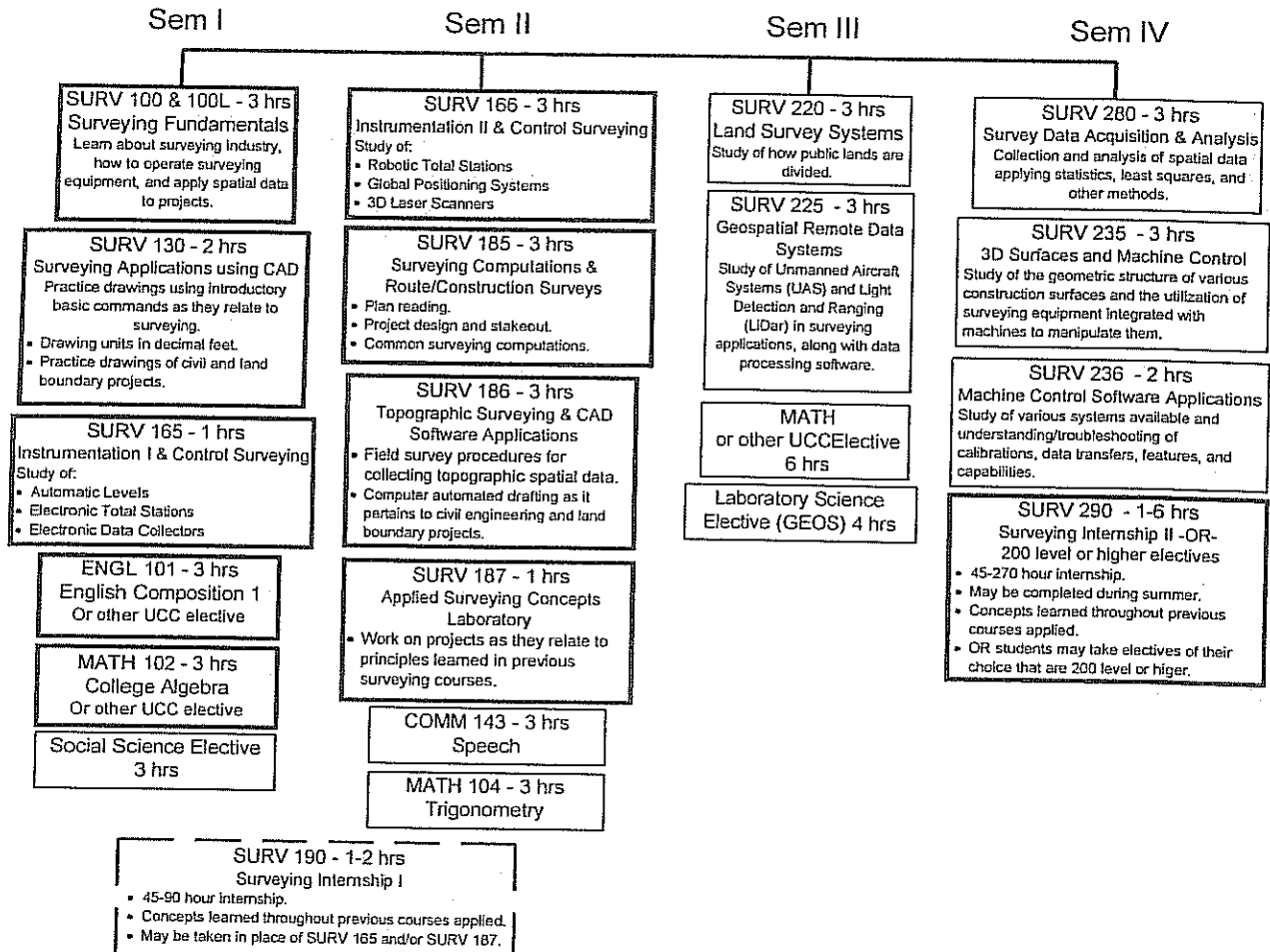
Vincennes University Surveying Technology

- Vincennes University is currently the only university in Indiana that offers a degree in Surveying Technology.
- Some topics covered by the classes include Instrumentation, Construction Surveying, Topography Surveying and Mapping, Boundary Surveying, Surveying Law, and Subdivision Design.
- Our class sizes are small, averaging around 12-16 students in each year of the program. This affords an abundant amount of one on one interaction between students and teachers.
- Within the first couple weeks of each semester, students are already doing lab work utilizing many kinds of surveying instruments and computer software. Classes are structured at a ratio of 1 hour of lecture to 2-3 hours of lab work.
- Classes consist of surveying theory and procedure. Math is also an integral part of surveying. Arithmetic, Algebra, Geometry, and some Trigonometry are the areas of math most utilized. Outside of the individual math classes required by the university, the math components are covered in the surveying classes and immediately incorporated into the surveying work.
- Our program possesses automatic and digital levels, total stations and robotic total stations, GPS units, a laser scanner, and a drone, along with a computer lab that houses the software to process the data collected with these instruments.
- The students in the program typically become very close and have several of the same classes together. In addition to their lab work, they often collaborate on homework assignments and projects from other classes. Our building/classrooms are open a majority of the time, allowing students the space and resources to do their work. Our instructors, when not in class, are typically on-hand to offer outside assistance as well.
- We work with students and employers to set up summer internships. Many students stay on with these companies after graduation.
- Upon completion of any of our surveying program options, our graduates are considered Surveying Technicians. They are qualified to start working with surveying/civil engineering firms or governmental agencies (typically under the supervision of a licensed surveyor or engineer), where it is reported they are promoted to crew leader positions within about 6 - 18 months.
- Job prospects for surveying technicians are booming right now and will continue to do so for the next several years. Employers praise the quality of students who graduate from our program and many claim they will only hire V.U. grads. The industry has suffered a shortage of technicians and licensed individuals as the number entering the field has dropped in recent years and older individuals have begun to retire. Having said that, we will only be graduating 9 students this spring, but have already been fielding requests from more than 15 employers searching for potential candidates. We expect more as the end of the school year approaches. Beginning average pay reported by employers and past graduates is in the range of \$18 - \$22 per hour.
- With completion of our program, the number of hours in science and math, and the work experience required by the State of Indiana, it is possible to become a Licensed Surveyor in Indiana. 4-6 years of work experience under the supervision of a licensed surveyor is required. Once you have earned a license, you can continue to work with a company or you can start your own. Surveying is an industry where the American Dream can truly be realized. If you choose to start your own business, the sky's the limit for how large you can grow it. It is largely based on your willingness to work hard and provide quality services.
- Surveying is a job that cannot be outsourced. There will always be a need for technicians and licensed individuals to perform and process measurements and package the results into a final product. Surveying is a function that is needed and performed worldwide, in every country, in every locale - from big cities to suburban subdivisions to rural areas. Historically, Egyptians were some of the first to record surveying activities and it has continued on ever since. Surveying is a highly regarded profession that several of our country's founding fathers worked in along with many other successful people since.

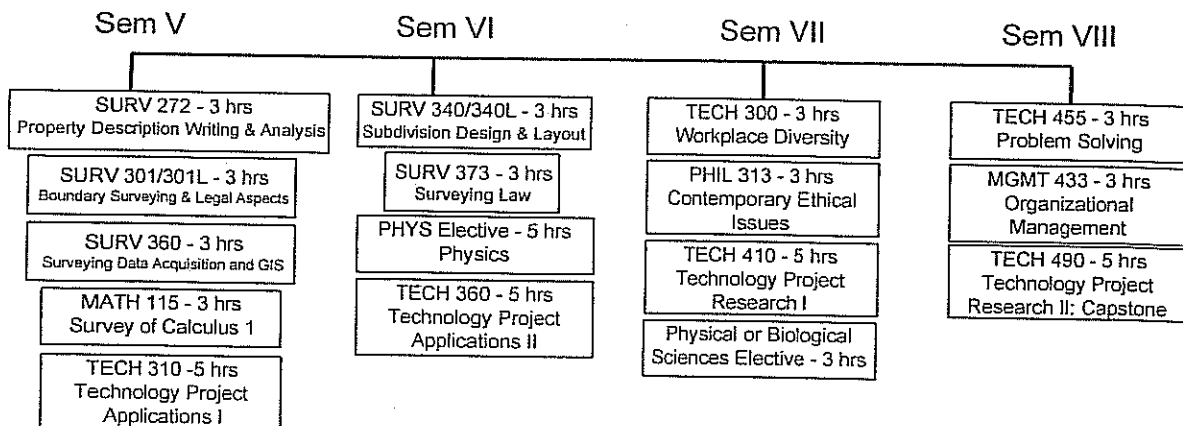
Vincennes University

Surveying Technology Program

- Certificate of Graduation, 1 yr.
- *Certificate classes outlined in bold.
- Associates Career/Tech, 2 yrs.
- Bachelors Surveying Management, 4 yrs.



Surveying Management Bachelor's Degree



Projects for Classes

- Projects include real-world applications of surveying either through fieldwork, computer work, or a combination of the two.
- They are done around campus, in Kimmell Park, and right across the river in Robeson Hills Nature Preserve (which is owned by V.U.) and at the V.U. Gibson County center underground mock mine.
- In special instances, community members will contact the program with requests, and if requests fit within the class content and schedule, we will survey those. Some examples from the past couple of years:
 - Oakland City Youth Baseball League was applying for a grant and needed a topography survey to submit along with the materials, so a class did the survey.
 - Morris Chapel, a small church in Oaktown, IN, requested to have their cemetery surveyed and a map drawn to help them monitor and plan burial sites.
 - Various land owners ask for help finding corners of their property.

Explanation of the C.G., ASCT degree, Bachelor's degree, and becoming licensed in Indiana.

To become a licensed surveyor in Indiana, the following is needed:

- An associates degree in any subject - surveying is specifically not required.
- 27 credit hours in specific college surveying classes that have been approved by the Indiana Registration Board.
 - All of V.U.'s classes have been approved.
- 12 credit hours of 100 level college math.
 - 3 of those credit hours must be in calculus.
- 11 credit hours of college level physical sciences.
 - 5 of those credit hours must be in physics.
- 4-6 years of work experience under the supervision of a licensed surveyor.
- Passing of 2 nation/state wide administered exams.

V.U.'s programing is set up to produce 3 types of technicians:

- **Certificate of Graduation (1 year of courses):** Field Crew Member Status
 - Students earn:
 - 12 credits of the required surveying college courses to be eligible for licensing.
 - 3 - 8 credits in specialized surveying instruction not required for licensing, but improves basics skills/understanding in surveying.
 - 6 college credit hours (student's choice) in general courses (math, science, English, social sciences)
 - math and science courses required for licensing could be obtained within this 6 hours.
- **Associate's Degree (2 years of courses):** Field Crew Member/Specialized Technology Status and Crew Chief Track
 - Students earn:
 - 18 credits of the required surveying college courses to be eligible for licensing.
 - 8 credits in advanced technology courses of mobile mapping and machine control not required for licensing, but creates skills needed by employers in industry.
 - 3-9 credits in specialized surveying instruction/internships or general courses of the student's choice.
 - 9-13 credits of the required math/science college courses to be eligible for licensing.
- **Bachelor's Degree:** All of the above + Boundary Law Knowledge and Management/Licensing Track Status
 - Students earn 33 credits that meet the surveying college course licensing requirements.
 - 23 credits that meet the math/science college course licensing requirements.

All of these degrees are stackable and count toward the requirements of the degree that is the next level beyond.

Indiana Requirements for Professional Surveyor Licensing

DEGREE REQUIREMENTS

Sec. 1. (a) This section establishes the minimum education and experience requirements under IC 25-21.5-5-2 for admission to the professional surveyor examination.

(b) The table in this subsection establishes provisions for evaluating combined education and experience to determine if it is sufficient to satisfy minimum registration requirements under IC 25-21.5-5-2 for professional surveyor registration applicants. For all levels of education stated, a minimum of one-half (1/2) of the required experience must be obtained following receipt of the first degree obtained. The requirements are as follows:

Education	Minimum Years of Work Experience
Doctorate in surveying discipline following bachelor's degree in a board-approved surveying curriculum	2
Master's degree in surveying discipline following bachelor's degree in a board-approved surveying curriculum	3
Bachelor's degree in a board-approved surveying curriculum	4
Doctorate in surveying following a bachelor's degree that is not in a board-approved surveying curriculum	3
Master's degree in surveying following bachelor's degree that is not in a board-approved surveying curriculum	4
Bachelor's degree that is not in a board-approved surveying curriculum	5
Associate degree and meets the college course requirements stated in subsection (c)	6

MATH

(c) The education of all applicants must include the following minimum level of education:

(1) Twelve (12) semester credit hours in college level mathematics, including at least a three (3) semester credit hour course in calculus or differential equations. One (1) course of no more than three (3) semester hours in statistics may count toward the required twelve (12).

MATH 102: 3	MATH 104: 3	MATH 110: 3	MATH 115: 3	Total = 12
Algebra	Trigonometry	Statistics	Calculus	

SCIENCE

PHYS 215: 5 (2) Five (5) semester credit hours in college level physics.

(3) Six (6) semester credit hours in any of the following college level science subjects:

CHEM 107: 4	(A) Chemistry.
	(B) Astronomy.
	(C) Physics.
GEOS 100: 4	(D) Geology.
Total = 13	(E) Botany.
	(F) Dendrology.

SURVEYING

SURV 100: 3 - Fundamentals of Surveying. Necessary to be prepared for all other classes.

(4) Twenty-seven (27) semester credit hours in college level surveying courses consisting of the following:

(A) Courses totaling at least twenty-four (24) semester credit hours that include substantial course work in each of the following eight (8) subjects:

- SURV 220: 3 (i) Land survey systems with substantial content related to the U.S. Public Land Survey System including the various instructions for surveys of the public lands, original surveys and resurveys, section corner perpetuation, lost and obliterated corners, and subdivision of sections.
- SURV 301: 3 (ii) Property surveying.
- SURV 272: 3 (iii) Analysis of and writing of property descriptions.
- SURV 373: 3 (iv) Boundary law.
- SURV 280: 3 (v) Surveying calculations, including mensuration statistics.
- SURV 340: 3 (vi) Subdivision planning and design.
- SURV 166: 3 (vii) Control surveying including GPS.
- SURV 360: 3 (viii) Geographic information systems (GIS).

(B) Courses totaling at least three (3) semester credit hours that include substantial course work in one (1) of the following:

- SURV 186: 3 (i) Topographic surveying.
- (ii) Photogrammetric surveying.
- (iii) Route surveying.
- SURV 185: 3 (iv) Construction surveying.

One (1) basic engineering course related to roads, storm drainage, and sanitary sewer extensions may be counted toward the requirements of this clause.

Can choose either SURV 186 or SURV 185, or do both.

Total Surveying = 30

Vincennes University Surveying Technology SCHOLARSHIP OPPORTUNITIES

There are many opportunities to be awarded scholarships through the Surveying Technology Program.

- **Southwest Indiana Chapter of the Indiana Society of Professional Land Surveyors Scholarship:** awarded to students living in the following Indiana counties: Daviess, Dubois, Gibson, Greene, Knox, Martin, Perry, Pike, Posey, Spencer, Vanderburgh, and Warrick Counties
 - (3) \$500 scholarships awarded to incoming freshmen.
 - (1) \$1500 scholarship awarded to a returning sophomore.
- **Duke Energy Mining Technology Scholarship**
 - Applies to Mining Technology / Surveying Technology / Engineering Majors.
 - Award amounts vary, though typically \$500 - \$1500, one-time award.
- **George S. Ridgway Surveying Student Scholarship**
 - Awarded during the 2nd semester of classes to be used during the second year of school.
 - Maximum award of \$6000.
- **Peggy Archer Memorial Surveying Scholarship**
 - Awarded during the 2nd semester of classes to be used during the second year of school.
 - Approximately \$3800.
- **Indiana Professional Land Surveyors Foundation Benchmark Scholarship**
 - Awarded during the 2nd semester of classes to be used during the second year of school.
 - Amount varies: \$1000 - \$2000
- **Kyle Jobin Scholarship**
 - Traditional, full-time student (in first or second year of attendance) as a Land Surveying Major.
 - Financial need is a consideration and must maintain a 2.0 GPA while at V.U.
 - Marion County and surrounding 8 counties of Indianapolis.
 - Award is \$1500.
- **Patrick Nunn Land Surveying Scholarship**
 - Surveying Major working toward a Bachelor's Degree at Vincennes University or upon transfer to another university.
 - \$1000

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