

SURVEYING SPECIALIZATION
CIVIL & ENVIRONMENTAL ENGINEERING DEPARTMENT
SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

CERTIFICATE OF COMPLETION
ISSUED BY CEE DEPARTMENT,
COLLEGE OF ENGINEERING, SIUC

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The Surveying Specialization, Civil Engineering Department, SIUC, exceeds the education requirements to allow one to be admitted to take the Surveyor-In-Training (NCEES: Fundamentals of Land Surveying) exam in Illinois and Missouri.

The specialization is within the Civil Engineering program and many feel this is the best route for prospective students to take, as it will allow them the opportunity for dual licensure as Professional Land Surveyors and Engineers.

It is realized that not all wanting to be Professional Land Surveyors desire to be a Professional Engineer. The 1989 Professional Land Surveyors Act requires either a Bachelor of Science degree in Land Surveying or a Bachelor of Science degree in a related science which contains a minimum of 24 semester hours of Land Surveying courses. The Department of Financial and Professional Regulation has issued a ruling that defines a related science program as one containing the following:

- 8 semester hours of Pure Science (Physics and/or Chemistry)
- 15 semester hours of Math (College Algebra & above)
- 20 semester hours of Related Sciences

Based upon this ruling a student can major in a number of programs that either meet these requirements or can take additional courses to meet them. In addition the student is required to take 24 semester hours of Land surveying courses. The specialization at SIUC contains 27 semester hours.

Some possible alternative programs other than Civil Engineering include but are not limited to the following:

Geography; Geology; Computer Science; Industrial Technology; Mechanical Engineering Technology; Forestry; Technical Resource Management (Designed to work with Related Associate of Science degrees from Community Colleges) and University Studies (which can be completed on-line).

All of the above can be accomplished at SIUC or other Universities. The Industrial Technology program is also offered off campus at Joliet Junior College on a weekend basis.

The TRM program is designed to work in conjunction with an Associate of Applied Science or Associate of Science degree from a community college. Contact Lisa Lindhorst, Academic Advisor (618/453-7281) for further information on the TRM program.

Currently, 21 semester hours of surveying courses are being offered on a weekend basis at Joliet Junior College. One course is offered per semester and meets four weekends per semester. The students must be employed in the land surveying profession. All registration for these courses is done through Roy Frank, SIUC at the beginning of each semester's course.

It must be noted that only the Professional Land Surveyors Exam Board, Department of Professional Regulation can make final ruling on the acceptability of a program and it is based upon courses shown on a final transcript. The SIUC Surveying courses have been reviewed and approved by the Department of Financial and Professional Regulation.

**SURVEYING COURSE OFFERINGS
SURVEYING ENGINEERING SPECIALIZATION
CIVIL ENGINEERING DEPARTMENT, SIUC**

BASIC SURVEYING (CE 263-3sh)[FALL & SUMMER]: This is an introductory course that is required for all Civil Engineering students. The course is designed to provide the student with a basic understanding of surveying methods, computations and equipment.

ENGINEERING SURVEYING (CE 361-3sh)[SPRING]: This course concentrates on the survey methods and processes utilized in conjunction with Civil Engineering projects. All aspects of topographic surveying are covered in great detail. The second segment covers Construction Surveying processes.
Includes the use of Total Stations, Robotic systems, GPS, and computer systems.

LAND SURVEYING (CE 362-3sh)[FALL]: This course covers the history and development of both the metes and bounds and U.S. Public Land Survey System. All aspects of the land survey process, legal search and legal descriptions are covered. Includes the use of Total Stations, theodolites, field search tools and computer systems.

CONTROL SURVEYING (CE 363-3sh)[SPRING]: This course is split into two segments. The first covers Control Surveys including Geodetic Surveying, Astronomic Observations and State Plane Coordinate Systems. The second covers establishment of Control Networks. Includes use of Total Stations, theodolites, automatic levels, GPS, and computer systems.

LEGAL ASPECTS OF LAND SURVEYING (CE 461-3sh)[SPRING]: This course meets at night. Subjects covered include: State Surveying Standards, statute law relating to surveying, ethics and guidelines.

LAND DEVELOPMENT AND DESIGN (CE 462-3sh)[FALL]: This course meets at night. The course covers all aspects of land development from the Surveyor's standpoint. Residential, industrial and recreational developments are included within the scope of the course.

FIELD SURVEY PROJECTS (CE463-3sh)[SUMMER]: This course meets on Tuesday and Thursday during the Summer semester and must be taken at the same time as CE 464. The course consists of actual field projects on Crab Orchard National Wildlife Refuge. It is designed to provide the student with extensive field experience in surveying.

FIELD SURVEY PROJECTS PLANNING AND COMPUTATIONS (CE 464-3 sh)[SUMMER]: This course must be taken at the same time as CE 463 and meets on Tuesday night during Summer semester. The course consists of planning, computing, and mapping of the projects undertaken in the CE 463 course.

PHOTOGRAMMETRY (CE 465-3sh)[SPRING]: This course is designed to provide the student with a working knowledge of photogrammetry as utilized by the Surveyor and Civil Engineer. Aerial and Terrestrial Photogrammetry methods are covered.

A typical plan of study for the surveying courses would be:

Semester 1 (FALL)

CE 263

Semester 2 (SPRING)

CE 361 or 363

CE 465

Semester 3 (SUMMER)

CE 463

CE 464

Semester 4 (FALL)

CE 362

CE 462

Semester 5 (SPRING)

CE 361 or 363

CE 461