Surveying

College of Lake County · Grayslake · Vernon Hills · Waukegan · Online

Program Overview

Engineering, Math and Physical Sciences Division, Room T102, (847) 543-2044

www.clcillinois.edu/credit/programs/civ.asp

EFFECTIVE 8/15/09

TRANSFER DEGREE PROGRAM
AREA OF CONCENTRATION:
SURVEYING
(Associate in Science) PLAN 11AB

I. College Requirements*

II. General Education Requirements

A. Communication Arts		**9**
CMM 121	Fundamentals of Speech	3
ENG 121	English Composition I	3
ENG 126	Advanced Composition: Scientific and Technical Communications *or*	
ENG 122	English Composition II	3
B. Social Sciences		**9**
ECO 221	Principles of Macroeconomics	3
ECO 222	Principles of Microeconomics	3
Social Science Elective		3
C. Physical and Life Sciences		**9**
PHY 121	General Physics I *or*	
PHY 123	Physics for Science and Engineering I	5
BIO 120	Environmental Biology *or*	
BIO 123	Principles of Biology	4
D. Mathematics		**10-12**
MTH 122	College Algebra	4
MTH 123	Trigonometry	3
OR		
MTH 144	Pre-Calculus	5
MTH 145	Calculus and Analytic Geometry I	5
E. Humanities and Fine Arts		**9**
PHI 122	Logic	3
PHI 125	Introduction to Ethics	3
Fine Arts Elective		3

III. International/Multicultural Requirement (I/M)

Select one course from the International/ Multicultural (I/M) list*. This course can fulfill both the I/M requirement and a Social Science, Humanities, Fine Arts or elective requirement. A B.A. degree at many four-year colleges may require college-level foreign language.

IV. Area of Concentration/Elective Requirements 10-11

Recommended Courses:

MTH 146	Calculus and Analytic Geometry II	4
PHY 122	General Physics II *or*	
PHY 124	Physics for Science and Engineering II	5
CIV 111	Basic Surveying	3
CIV 211	Land Surveying *or*	
CIV 216	Civil Surveying	3

How to Register

Visit www.clcillinois.edu/credit/register for steps on how to register.

Typical Jobs

- Surveyors
- Cartographers
- Photogrammetrists
- Surveying and Mapping Technicians

Salary Range *

$26,690 - $79,910

Job Outlook *

Overall employment is expected to increase by 21 percent from 2006 to 2016, which is much faster than the average for all occupations.

Employers

- Gewalt-Hamilton Associates
- Greengard
- Baxter and Woodman
- Kapur & Associates
- McClure Engineering Associates
- TFW Surveying and Mapping
- R. E. Allen & Associates
- Dietz Surveying
- Jorgensen & Associates
- Manhard Consulting
- R.E. Decker
- Peklay Surveying Co.

Transfer Schools

CLC has agreements with the following institutions:

- Purdue Calumet
- Southern Illinois University – Carbondale

** Career information is based on data from the Bureau of Labor Statistics for the Chicagoland area.*

Surveying

College of Lake County

www.clcillinois.edu/credit/programs/civ.asp

Educational Requirements

Professional Land Surveyor License

For a Professional Land Surveyor (PLS) license in Illinois, a bachelor's degree is required, and several are accepted under the Illinois Department of Professional Regulation's (IDFPR) definition of a related science.

The A.S. Surveying degree includes all of the core requirements stipulated by IDFPR, allowing the candidate maximum flexibility in the choice of a bachelor's program. 24 semester hours of surveying classes are also required, which may be included in the bachelor's degree.

Meet educational requirements at the University Center of Lake County

One qualifying bachelor's degree is the B.S. – Industrial Technology offered by Southern Illinois University through the University Center of Lake County. Students who intend to go this route should meet with representatives at the University Center as soon as possible concerning the proper course of action at the College of Lake County.

Options for meeting the surveying class requirements include on-line courses and weekend classes at Joliet Junior College.

What Does a Surveyor Do?

Definition adopted by the International Federation of Surveyors (www.fig.net)

A surveyor is a professional person with the academic qualifications and technical expertise to conduct one or more of the following activities:

- Determine, measure and represent the land, three-dimensional objects, point-fields and trajectories;
- Assemble and interpret land and geographically and economically related information;
- Use that information for the planning and efficient administration and management of the land, the sea and any structures thereon;
- Carry out urban and rural development and land management; and conduct research into the above practices and to develop them.

Types of Surveys

- **Control surveys** establish a network of monuments that serve as a framework for other surveys.
- **Topographic surveys** determine location of natural and artificial features and elevations used in map making.
- **Boundary surveys** establish and recover property lines.
- **Hydrographic surveys** define shorelines and depths of lakes, rivers, oceans, and other bodies of water.
- **Construction surveys** provide control and field configurations for roads, railroads, pipelines, and other construction projects.
- **As-built surveys** document the precise final locations and layouts of engineering works and record any design changes that may have been incorporated into the construction.
- **Mine surveys** are performed above and below ground to guide tunneling and other operations associated with mining.
- **Aerial surveys** combine photogrammetry and remote sensing based in either airplanes or satellites to produce maps and monitor large regions of the Earth.
- **Solar surveys** map property boundaries, solar access easements, position obstructions and collectors according to sun angles, and meet other requirements of zoning boards and title insurance companies.

Source: Ghilani & Wolf, Elementary Surveying, 12th ed, Prentice Hall

Fun Fact

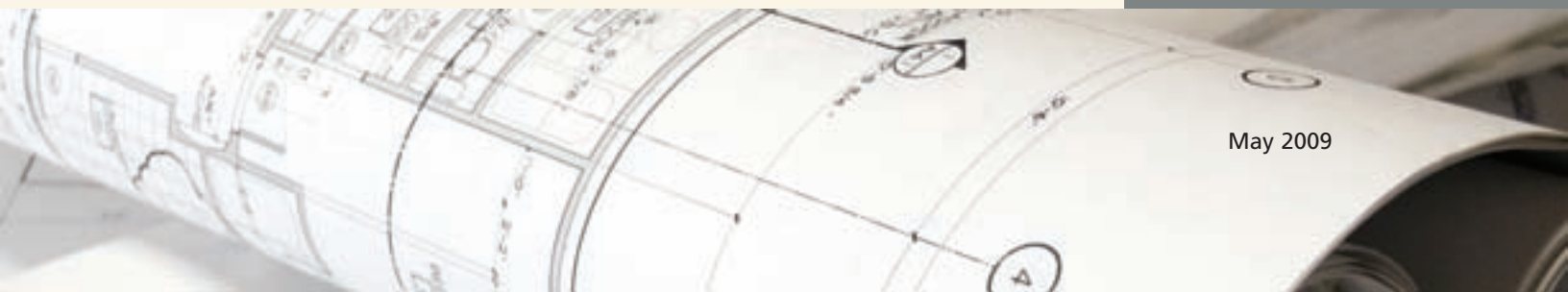
Surveyors in History

Surveyors don't just measure the land, they help to document, and sometimes become part of, its history. A short list of important surveyors includes George Washington, Thomas Jefferson and Abraham Lincoln.

Contact Info

19351 W. Washington Street
Grayslake, IL 60030

Robert Twardock, P.E.
Department Chair
Room: T113
Phone: (847) 543-2903
rtwardock@clcillinois.edu



May 2009