SURVEYING & MAPPING (2980)

2980:100. Introduction to Geomatics. (2 Credits)
An introductory course into the field of surveying and mapping technology. Integrated topics include: types of surveys, cartography, and geographic information systems.

2980:101. Basic Surveying. (3 Credits)
Corequisites: 2030:153. Care and use of basic surveying field instruments and the basic computations and adjustments necessary to post process the field survey measurements. Field Practice.

2980:102. Topographic Surveying. (2 Credits)

2980:122. Elementary Surveying. (3 Credits)
Elementary surveying for non-surveying and construction majors. Basic tools and computations. Field practice.

2980:123. Surveying Field Practice. (2 Credits)
Prerequisite: 2980:102 or equivalent. Practical experience in use of surveying equipment and methods of surveying. Provides students with responsibility for making decisions and planning and directing complete project.

2980:155. Computer Applications in Surveying. (3 Credits)
Use of current surveying software to solve typical problems/projects in surveying technology.

2980:170. Surveying Drafting. (3 Credits)
Corequisite: 2030:152 or permission. Drafting procedures, techniques, and tools required for the various phases of survey office work. Projects include topographic maps, plan and profile drawings, and cross-section drawings. Laboratory.

2980:222. Construction Surveying. (3 Credits)

2980:223. Geospatial Technologies. (3 Credits)
Introduction to current and emerging geospatial technologies, such as Geographic Information Systems, remote sensing and global positioning systems, and exploring mapping data sources. Laboratory required.

2980:225. Advanced Surveying. (3 Credits)
Prerequisite: 2980:228. Introduction to topographic mapping, flood maps, and ALTA surveys. Advanced topics in control surveys, State Plane Coordinates, and bearings from celestial observations. Field practice.

2980:228. Boundary Surveying. (3 Credits)
Prerequisites: 2980:101 or equivalent. Analysis of evidence and procedures for boundary location; establishing and/or locating points for boundary and mortgage location surveys; plat preparation. Ohio survey minimum standards.

2980:251. CST Seminar. (1 Credit)
Prerequisite: 2980:222. Prepares students for the National Society of Professional Surveyors Certified Surveying Technician (CST) Level I Examination. Examination is given at the end of the review sessions.

2980:310. Survey Computations & Adjustments. (2 Credits)
Prerequisite: 2980:225. Concepts relating to measurement error, probability, and reliability. Computation and adjustment of horizontal and vertical networks.

2980:315. Boundary Control & Legal Principles. (3 Credits)
Prerequisite: 2980:228. Historical development of boundaries, rectangular system of public land surveys, systems to describe property, surveyor’s responsibility to understand and properly apply legal principles to boundary.

2980:325. OSHA Safety Requirements for Surveyors. (1 Credit)
To provide OSHA safety training and certification required for surveying companies.

2980:330. Applied Photogrammetry. (3 Credits)
Prerequisite: 2980:155. An introduction to metrical and quantitative photogrammetry using both hard- and soft-copy systems. Laboratory.

2980:335. The Business of Surveying. (2 Credits)
A course focused on the business aspects of surveying, including development of business plan components for a company offering professional surveying and mapping services.

2980:340. Cadastral Surveying. (2 Credits)
Prerequisites: 2980:101. A study of the official surveys of the United States. Cadastral surveys establish or recreate boundaries and/or tracts of land.

2980:415. Legal Aspects of Surveying. (3 Credits)
Prerequisite: 2980:315. A study of statute and common law related to land surveying. Evidence and the surveyor’s role in the judicial process. Interpreting and writing land descriptions.

2980:420. Route Surveying. (3 Credits)
Prerequisite: 2980:225. Surveying for long but narrow strips of land such as highways, railroads, and pipe lines. Course includes all requisite calculations and drawings.

2980:421. Subdivision Design. (3 Credits)
Prerequisites: 2980:155, 2980:222, and 2980:315. Site analysis, land use controls, and plotting procedures. Laboratory includes preparation of various types of projects leading to a complete subdivision.

2980:422. Global Positioning System Surveying. (3 Credits)
Prerequisites: 2980:225, 2985:101 or permission. Introduction to the Global Positioning System (GPS). Course includes the planning, data collection, and processing of GPS data.

2980:425. Land Navigation. (3 Credits)
Interpretation and use of topographic maps. Study of basic map elements with emphasis on identification of features and coordinate systems. Map use for land navigation.

2980:426. History of Surveying To 1785. (2 Credits)
A history of land surveying. Emphasis on the development of survey procedures through history. Part I (to 1785) covers the ancient world to the colonial period.

2980:427. Ohio Lands. (2 Credits)
Study of the history of the original Ohio Land Subdivisions.

2980:428. History of Surveying Since 1785. (2 Credits)
A history of land surveying. Emphasis on the development of survey procedures through history. Part II (Since 1785) covers the history of the United States to date.
2980:430. Surveying Project. (3 Credits)
Prerequisite: senior standing and permission. Provides opportunity to research and develop a specific surveying project within chosen area of surveying. Oral, written and graphical presentation of completed project(s).

2980:431. Senior Seminar. (2 Credits)
Prerequisite: Senior standing. Students demonstrate knowledge and skills acquired as surveying majors through assessment testing and review of professional licensure laws. Preparation for national exams.

2980:445. Applications in GIS using GPS. (3 Credits)
Prerequisite: 2985:101. Advanced instruction in GIS applications using GPS as well as other surveying and mapping methods. Laboratory.

2980:450. Topics in Professional Practice. (2 Credits)
Prerequisite: Junior standing. Topics in applicational areas of surveying from the point of view of the practitioner and the consumer of land-related data.

2980:489. Special Topics in Surveying. (1-3 Credits)
Prerequisite: Permission. Special lecture/laboratory courses offered once or only occasionally in areas where no formal course exists. (May be repeated for a maximum of six credits.)

2980:490. Workshop in Surveying. (1-3 Credits)
Prerequisite: Permission. Group study of special topics in surveying. May not be used to meet undergraduate major requirements in surveying. May be used for elective credit only. (May be repeated for a maximum of six credits.)

2980:495. Internship: Surveying and Mapping. (3 Credits)
Prerequisite: 64 hours in program and permission from program director. Supervised work experience in surveying and mapping to increase student understanding of surveying and mapping technology.

2980:497. Surveying Honors Project. (3 Credits)
Prerequisites: Senior Studies as an honor student. Provides opportunities to research and develop a specific surveying project within chosen area of surveying. Oral, written, and geographical presentation of completed projects.

2980:498. Independent Study. (1-3 Credits)
Prerequisites: Permission of instructor. Directed study in a special field of interest chosen by student in consultation with instructor (may be repeated for a total of six credits).