

Course Outline
SURV 121
Topographical Mapping
3 Semester Hours
2 Lecture Hours
2 Lab hours

The Community College of Baltimore County

Description

Topographical Mapping

Introduces the principles of topographical mapping; includes field sketching, plotting, traverses and stadia notes to develop topographic and planimetric maps; plotting cross sections and profiles; the use of the planimeter; the development of grading plans; Maryland Standards on Mapping and Photogrammetry; and an introduction to map projections; also teaches how to gather and analyze field data through the use of the Global Positioning System (GPS).

3 credits; 2 lecture hours; 2 laboratory hours required.

Prerequisite: SURV 101 (conc) or permission of the program coordinator.

Overall Course Objectives

Upon completion of this course the student will be able to:

1. explain and perform the field aspects of topographical/planimetric surveying.
2. explain and perform the process of office plotting of topographical maps and field data.
3. plot cross sections and profiles from maps.
4. prepare grading plans.
5. demonstrate the proper use of a planimeter.
6. perform earthwork computations.
7. explain the differences between map projections.
8. explain the use of photogrammetry as it applies to topographic mapping.
9. explain the use of GPS and use it to collect field data for use in topographic mapping.
10. perform a topographic survey and collect field data with conventional equipment.

Major Topics

- I. Field methods of topographic survey
- II. Office plotting of topographic survey
- III. Plotting sections and profiles
- IV. Grading
- V. Use of Planimeter
- VI. Earthwork computations
- VII. Map Projections
 - A. Implementation of grid vs ground
 - B. Mapping accuracy
- VIII. Photogrammetry
- IX. Global Positioning Systems (GPS) Techniques and topographic surveys

Course Requirements

Grading/exams: Grading Procedures will be determined by the individual faculty member but will include the following:

1. Quizzes, tests, exams: Individual instructors will notify students of procedures, but as a minimum, two tests or quizzes will be required.
2. Comprehensive Midterm Exam: The course will require a comprehensive Midterm Exam.
3. Comprehensive Final Exam: The course will require a comprehensive final exam.
4. Homework assignments: Individual instructors will notify students of procedures, but as a minimum two graded assignments will be given.

Other Course Information

This course is a core course in Surveying Degree and Certificate Programs.

This course is taught in a classroom environment.