

SURV 243

Minor Engineering IV – Storm Water Management

3 Credits (3 Lecture Hours and 2 Lab Hours per week)

Community College of Baltimore County
Common Course Outline

Description

SURV 243 – Minor Engineering IV – Storm Water Management: Introduces the principles, specifications, and requirements for the design of structures used to control storm waters in the State of Maryland. Using the state of Maryland Storm Water Management Manual, the student will design structures, compute stresses and water flow and determine specifications for existing structures.

Pre-requisites: SURV 241 or permission of the program coordinator. Not offered every semester, see the course Credit Class Schedule for scheduling information

Overall Course Objectives

Upon completion of this course, students will be able to:

1. Discuss the history and practices of Stormwater management practices in the state of Maryland;
2. Determine Unified Stormwater Sizing Criteria;
3. Determine performance criteria for Urban Best Management Practices (BMP) design;
4. Use the Maryland Stormwater Design Manual to determine BMP Selection;
5. Use the Maryland Stormwater Design Manual to determine landscaping guides for Stormwater BMP's; and
6. Determine construction specifications for ponds, supplemental ponds, wetlands, infiltration practices, bioretention, sand filters, and open channels.

Major Topics

- I. Introduction to Stormwater Management and the Maryland Stormwater Design Manual
- II. Unified Stormwater Sizing Criteria
- III. Performance Criteria for Urban Best Management Practices (BMP) Design
- IV. Guide to BMP Selection and Location in the State of Maryland
- V. Stormwater Credits for Innovative Site Planning
- VI. Landscaping Guidance for Stormwater BMP's
- VII. Construction Specifications
 - a. NRCS-MD Code No 378 Pond Standards/Specifications
 - b. Supplemental Pond and Wetland Stormwater Specifications
 - c. Construction Specifications for Infiltration Practices
 - d. Construction Specifications for Bioretention, Sand Filters and Open Channels
- VIII. Design Examples
 - a. Pond Design
 - b. Sand Filter Design

The Common Course Outline (CCO) determines the essential nature of each course.

For more information, see your professor's syllabus.

- c. Infiltration Trench Design
 - d. Dry Swale Design
 - e. Bioretention Design
- IX. Design Tools

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Quizzes, tests, exams: Individual instructors will notify students of procedures, but as a minimum, two tests or weekly quizzes will be required
- Comprehensive Midterm Exam: The course will require a comprehensive Midterm Exam
- Comprehensive Final Exam: The course will require a comprehensive final exam
- Homework assignments: Individual instructors will notify students of procedures, but as a minimum, one graded assignment will be given

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

Other Course Information

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

This course is taught in a classroom environment.

Date Revised: 6/6/2000

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