

**Common Course Outline**  
**CONT 151**  
**Construction Planning and Scheduling**  
**3 Credits**

**The Community College of Baltimore County**

**Description**

**CONT 151 – 3 credits - Construction Planning and Scheduling** includes the planning elements necessary before and during a construction project. The topics are approached as separate and interrelated subjects in order to demonstrate the need for manpower, materials, and equipment coordination. The importance of good planning upon projected job costs and profits is studied.

**3 credits**

**Prerequisite:** CSIT 101 and CONT 106 or permission of the Construction Management Coordinator

**Overall Course Objectives**

Upon completion of this course students will be able to:

1. introduce Contemporary methods of scheduling construction projects;
2. develop project schedules in an activity based format;
3. analyze the Critical Path Method CPM;
4. examine uses and requirements for construction schedules;
5. identify primary and secondary requirements for a schedule in the various project phases;
6. develop lists of activities required for a construction project;
7. develop logic network diagrams showing sequence of construction;
8. determine estimated planned duration for each activity;
9. perform Critical Path Forwards Pass calculations to determine Early Time Boundaries;
10. perform Critical Path Backwards Pass calculations to determine Late Time Boundaries;
11. determine the critical path for the project;
12. determine Float time on each activity;
13. develop Submittal Schedules;
14. develop Approval/Delivery schedules and ROJ dates;
15. update Project Schedules based upon actual performance;
16. compare Actual vs. Planned Schedules;
17. identify causes for delays and propose solutions to mitigate delays;
18. estimate costs incurred due to accelerating project schedule; and
19. evaluate cost effectiveness of various acceleration options.

## **Major Topics**

- I. Developing a network model
- II. Developing an arrow-diagram network
- III. Performing time calculations
- IV. Precedence diagrams
- V. Determine activity durations
- VI. Time in contract provisions
- VII. Resource allocation and resource leveling
- VIII. Money and network schedules
- IX. Project monitoring and control
- X. Computer scheduling
- XI. Earned value: a means for integrating costs and schedule
- XII. Impact of scheduling decisions on productivity
- XIII. CPM in dispute resolution and litigation
- XIV. Short-interval schedules
- XV. Linear scheduling
- XVI. Program evaluation and review technique

## **Course Requirements**

Grading procedures will be determined by the individual faculty member but will include the following:

### Grading/exams:

- Homework
- Projects
- Midterm exam
- Sample estimate
- Term paper or oral report
- Classwork
- Team projects
- Quizzes
- Final exam

There will be a minimum of 8 graded assignments

Writing: The individual faculty member will determine specific writing assignments.

Students are required to utilize appropriate academic resources.

## **Other Course Information**

This course is a Construction Management required course

Portions of this course are taught in a computerized environment.

The course is only offered in the fall semester.

Individual faculty members may include additional course objectives, major topics, and other course requirements.