WEST VIRGINIA UNIVERSITY AT PARKERSBURG
UNIFORM COURSE SYLLABUS

Name of Course Software Engr. And Data Structures   **Course No.** CS 403

Department Computer Science   **Division** Technology

I.   Course Objectives
Upon completion of this course, students should be able to:
1. Be familiar with the problems and solutions involved with large programming projects using a software engineering approach.
2. Apply object-oriented design to problems using an object-oriented language.
3. Develop and implement algorithms using numerical methods.
4. Develop and use sophisticated data structures to solve various problems.
5. Work with graph and pattern matching algorithms.

II.   Topics to be Studied

Topic	Number of Weeks
1. Review of Elementary Data Structures	2
2. Overview of object-oriented design and software engineering	3
3. Numerical Methods	2
4. Intermediate Data Structures using object-oriented design	6
5. Graph and Pattern Matching	3

III.   Special Projects to be Included in Course
Computer projects will be designed and implemented during the course.

V.   Methods of Student Evaluation
3 tests will be given
2 tests during the semester and a comprehensive final
Type of tests – Short answer, problems, and essay

V.   Assessment of Outcomes

95% of the students will be able to use a software engineering approach to develop software utilizing object-oriented design, sophisticated data structures and complex algorithms.

VI.   Other Information

None

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