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| **ELEMENT** | **CONTENT** |
| DEPARTMENT | CIS |
| AUTHOR (S) | Craig Damon |
| COURSE NUMBER | **CIS 5130** |
| COURSE TITLE | **Analysis of Software Artifacts** |
| SHORT TITLE | SW Artifacts |
| COURSE LEVEL | 5000 |
| DATE CREATED | 11/28/2012 |
| CHECKED/CHANGED | 2/6/2017 |
| PREREQUISITES | CIS 4050, 4120, 4150 |
| COREQUISITES |  |
| RESTRICTIONS | Graduate standing |
| SPECIAL FEES | No |
| CREDITS | 3 |
| HOURS | 3 hours of lecture per week |
| SEMESTER | Fall |
| COURSE DESCRIPTION | The student completing this course will be able to analyze the range of artifacts created during the software development process, ranging from requirements and design documents through source code and to test results. The approaches covered include both heuristic and formal analyses. |
| SUGGESTED TEXTS |  |
| OPTIONAL TEXTS |  |
| COURSE OUTCOMES | The successful student will be able to:   1. Analyze a requirements document to extract relevant useful information 2. Analyze software designs at multiple levels using multiple techniques to extract relevant useful information 3. Analyze source code using multiple techniques to extract relevant useful information 4. Analyze results of program runs, including testing, benchmarks, and logging generated by deployed applications, using multiple techniques to extract relevant useful information 5. Understand when these analyses are appropriate to perform |
| COURSE CONTENT | 1. Static code analysis 2. Dynamic code analysis 3. Introduction to formal verification 4. Analyzing and modeling requirements 5. Analyzing and modeling high-level designs 6. Analyzing and modeling class designs 7. Analyzing and modeling protocols 8. Analyzing and modeling security concerns 9. Analyzing logging and error reports |
| LAB/STUDIO OUTCOMES |  |
| LAB/STUDIO CONTENT |  |
| LECTURE CAPACITY | 32 |
| LAB CAPACITY |  |
| GRADED OR P/NP | Graded |
| EVALUATION | Homework |
| DELIVERY METHOD | LEC |
| ROOM REQUIREMENTS |  |
| AUTHOR’S NOTES |  |