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| **ELEMENT** | **CONTENT** |
| DEPARTMENT | CIS |
| AUTHOR (S) | Peter Chapin |
| COURSE NUMBER | **CIS 3012** |
| COURSE TITLE | **C++ Programming** |
| SHORT TITLE | C++ |
| COURSE LEVEL | 3000 |
| DATE CREATED |  |
| CHECKED/CHANGED | 6/7/2017 |
| PREREQUISITES | CIS 2010 or 2025; CIS 2260 |
| COREQUISITES |  |
| RESTRICTIONS |  |
| SPECIAL FEES | No |
| CREDITS | 3 |
| HOURS | 3 hours of lecture per week |
| SEMESTER | Spring |
| COURSE DESCRIPTION | This course covers the syntax and semantics of the major C++ features. Topics include data abstraction, object-oriented programming, and generic programming, including the use of the standard template library. C++ 2011 is used and features added to that standard are described. Discussion of C++ best practices and design techniques is incorporated throughout. |
| SUGGESTED TEXTS | *C++ Primer*; Stanley B. Lippman, Josee Lajoie, & Barbara E. Moo |
| OPTIONAL TEXTS |  |
| COURSE OUTCOMES | The successful student will be able to:   1. Read and write small but useful C++ programs that use the C++ standard library I/O facilities, strings, and STL containers 2. Understand how basic object-oriented programming is done in C++ 3. Understand how to develop library templates in the style of the STL 4. Understand and apply important C++ best practices |
| COURSE CONTENT | 1. Basic concepts    1. References    2. Const    3. Function overloading 2. C++ library    1. IOStream    2. Std::string    3. Std:: vector 3. Data abstraction in C++    1. Classes    2. Constructors    3. Destructors    4. Operator overloading 4. OOP in C++, including an introduction to multiple inheritance 5. STL containers, iterators, algorithms 6. Templates 7. Advanced topics as time permits |
| LAB/STUDIO OUTCOMES |  |
| LAB/STUDIO CONTENT |  |
| LECTURE CAPACITY | 21 |
| LAB CAPACITY |  |
| GRADED OR P/NP | Graded |
| EVALUATION |  |
| DELIVERY METHOD | ONL |
| ROOM REQUIREMENTS | No room |
| AUTHOR’S NOTES |  |