School of Computing
UNIVERSITY OF GEORGIA

# *Course Information Sheet*
# CSCI 4300
Web Programming

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| **Brief Course Description** (50-words or less) | Client-side and server-side techniques for use on the World Wide Web. Interactive, dynamically generated, and database-enabled web pages are discussed. Course content changes frequently to incorporate new Internet technologies. |
| **Extended Course Description / Comments** | Not open to students with credit in CSCI 4350/6350.<br><br>Important technologies that have been covered in recent course offerings: Model-View-Control architectural pattern, persistence providers such as Hibernate, Service-Oriented Architecture, Web Services Ajax, and JavaScript toolkits. |
| **Pre-Requisites and/or Co-Requisites** | CSCI 1302<br>Software Development in Java |
| **Required, Elective or Selected Elective** | Selected Elective Course |
| **Approved Textbooks** (if more than one listed, the textbook used is up to the instructor's discretion) | Author(s): Andrea Steelman and Joel Murach<br>Title: *Murach's Java Servlets and JSPs*<br>Edition: 2nd<br>ISBN-13: 978-1890774448 |
| **Specific Learning Outcomes (Performance Indicators)** | At the end of the semester, all students will be able to do the following:<br>1. Define and use terms relevant to Web development.<br>2. Recognize and interpret HTTP response codes.<br>3. Author HTML documents conforming to language standards promulgated by the World-Wide Web Consortium<br>4. Design and develop Web applications incorporating multiple dynamically generated pages and role-based permissions.<br>5. Design and develop database-enabled Web applications.<br>6. Handle error conditions in Web applications.<br>7. Create HTML documents that change structure in response to user events<br>8. Create HTML documents that change structure in response to asynchronous events. |

**ABET Learning Outcomes**

A. Graduates of the program will have an ability to: Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
B. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
C. Communicate effectively in a variety of professional contexts.
D. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
E. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
F. Apply computer science theory and software development fundamentals to produce computing-based solutions.

NOTE: In the construction of the student learning outcomes for this course, the instructors interpreted "computing requirements" in (B) as the functional requirements for a software solution and not as specific hardware requirements for the target platform; likewise, the phrase "[a]pply computer science theory" in (F) was interpreted as using computer science principles.

**Relationship Between Student Outcomes and Learning Outcomes**

| | ABET Learning Outcomes | | | | | | |
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| **Specific Learning Outcomes** | | **A** | **B** | **C** | **D** | **E** | **F** |
| | **1** | ● | | | | | ● |
| | **2** | ● | ● | | | ● | ● |
| | **3** | ● | ● | | | ● | ● |
| | **4** | ● | ● | | | ● | ● |
| | **5** | ● | ● | | | ● | ● |
| | **6** | ● | | | | ● | ● |
| | **7** | ● | ● | | | ● | ● |
| | **8** | ● | ● | | | ● | ● |

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| **Major Topics Covered**<br>(Approximate Course Hours)<br><br>3 credit hours = 37.5 contact hours<br>4 credit hours = 50 contact hours<br><br>Note: Exams count as a major topic covered | HTTP and the TCP-IP protocols (2 hrs)<br>HTML and Cascading Stylesheets (2 hrs)<br>Test-driven development (3 hrs)<br>Java Server Pages (3 hrs)<br>JavaBeans (4 hrs)<br>Expression language (2 hrs)<br>Java Standard Tag Library (3 hrs)<br>Java Servlets (2 hrs)<br>Model-View-Controller development (3 hrs)<br>Database design and Web application (2 hrs)<br>Database programming (2 hrs)<br>Web application development on servers (4 hrs)<br>Logging and Filtering (3 hrs)<br>Web services and Service-Oriented Architecture (3 hrs)<br>Exception handling (3 hrs)<br>Client-side scripting (6 hrs)<br>Tests (3 hrs) |
| **Modified** | 2/14/2024 by Dr Sachin Meena and Dr. Diane Stephens |