Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.
COURSE SYLLABUS

CSCI 631
WEB SECURITY

COURSE DESCRIPTION

This course deals with web security issues, such as SQL injection and cross site scripting along with how to defend and protect against such attacks.

RATIONALE

Web security is a subject with high visibility and importance. The stakes are high for all concerned- for businesses that derive increasing revenue from Internet commerce, for users who trust web applications with sensitive information, and for criminals who can make big money by stealing payment details or compromising bank accounts. This course addresses this critical subject by practically discussing common web vulnerabilities, secure web development practices and mitigation measures against those vulnerabilities, and how to conduct, analyze, and document web security audits.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE

Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING

A. Computer with basic audio/video output equipment
B. Internet access (broadband recommended)
C. Microsoft Word
   (Microsoft Office is available at a special discount to Liberty University students.)

IV. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

A. Understand the vulnerabilities present in web applications.
B. Exploit vulnerabilities present in web applications.
C. Use exploited vulnerabilities to penetrate a network’s defenses.
D. Secure a large scale web application including front and back end components.
E. Integrate biblical principles within the field of computer security.
V. **Course Requirements and Assignments**

A. Textbook readings and lecture presentations/notes

B. Course Requirements Checklist

After reading the Syllabus and [Student Expectations](#), the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (4)

The student is required to provide a thread in response to the provided prompt for each forum. Each thread must be 300 words in length and demonstrate course-related knowledge. In addition to the thread, the student is required to reply to two (2) other classmates’ threads. Each reply must be 150 words in length.

D. Labs (7)

The student will complete seven (7) labs associated with the course material. Each lab will have specific instructions for tasks, along with deliverables, to be completed in the virtual lab environment.

E. Security Assessment Findings Project

The student will perform a security assessment of a web site, as discussed in the lab environments, and create a report based upon the results of that assessment.

The student will then write a 5-page research-based paper in current APA format that focuses on the results from a web security assessment. A template and further instructions are provided in the course. The paper must include at least three (3) references in addition to the course textbook and the Bible.

F. Security Assessment Remediation Project

This project is a continuation of the Security Assessment Findings Project. In this paper, the student will discuss the recommended remediations and actions to address the vulnerabilities reported upon in the earlier paper. The student will write a 5-page research-based paper using the associated template with this assignment. The final deliverable for this project will be a 10-page paper in current APA format (including the five pages from a previous assignment with the new content in this paper- combining the paper from Module/Week 6 with the paper in this project.). It must include at least three (3) additional references in addition to the course textbook and the Bible.

G. Quizzes (6)

Each quiz will cover the Reading & Study material for the module(s)/week(s) in which it is assigned. Each quiz will be open-book/open-notes, contain multiple-choice, true/false, and short answer questions, and have a 60-minute time limit.

H. Midterm Exam

The Midterm Exam will cover the Reading & Study material for Modules/Weeks 1–4. The Midterm Exam will be open-book/open-notes, contain true/false,
multiple choice, and short answer questions, and have a 1 hour and 30 minute time limit.

VI. COURSE GRADING AND POLICIES

A. Points

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Requirements Checklist</td>
<td>10</td>
</tr>
<tr>
<td>Discussion Board Forums (4 at 50 pts ea)</td>
<td>200</td>
</tr>
<tr>
<td>Labs (7 at 50 pts ea)</td>
<td>350</td>
</tr>
<tr>
<td>Security Assessment Findings Project</td>
<td>75</td>
</tr>
<tr>
<td>Security Assessment Remediation Project</td>
<td>75</td>
</tr>
<tr>
<td>Quizzes (6 at 25 pts ea)</td>
<td>150</td>
</tr>
<tr>
<td>Midterm Exam (Modules 1-4)</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1010</strong></td>
</tr>
</tbody>
</table>

B. Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>940–1010</td>
</tr>
<tr>
<td>A-</td>
<td>920–939</td>
</tr>
<tr>
<td>B+</td>
<td>900–919</td>
</tr>
<tr>
<td>B</td>
<td>860–899</td>
</tr>
<tr>
<td>B-</td>
<td>840–859</td>
</tr>
<tr>
<td>C+</td>
<td>820–839</td>
</tr>
<tr>
<td>C</td>
<td>780–819</td>
</tr>
<tr>
<td>C-</td>
<td>760–779</td>
</tr>
<tr>
<td>F</td>
<td>0–759</td>
</tr>
</tbody>
</table>

Late Assignment Policy

If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week of the due date will receive a 10% deduction.
2. Assignments submitted more than one week late will receive a 20% deduction.
3. Assignments submitted two weeks late or after the final date of the course will not be accepted.
4. Late Discussion Board threads or replies will not be accepted.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

C. Disability Assistance

Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.
## COURSE SCHEDULE

### CSCI 631


2nd Edition  


<table>
<thead>
<tr>
<th>MODULE/WEK</th>
<th>READING &amp; STUDY</th>
<th>ASSIGNMENTS</th>
<th>POINTS</th>
</tr>
</thead>
</table>
| 1          | Stuttard: chs. 1-3  
Harwood: ch. 15  
1 presentation | Course Requirements Checklist  
Class Introductions  
DB Forum 1  
Quiz 1 | 10  
0  
50  
25 |
| 2          | Harwood: chs. 4-6  
1 presentation  
Lab 1 Worksheet | Lab 1: Evaluating Web Vulnerabilities  
Quiz 2 | 50  
25 |
| 3          | 1 presentation  
2 websites  
Lab 2 Worksheet | DB Forum 2  
Lab 2: Exploiting Known Web Vulnerabilities  
Quiz 3 | 50  
50  
25 |
| 4          | Harwood: chs. 7-8  
Stuttard: chs. 9,12,18  
1 presentation  
Lab 3 Worksheet | Lab 3: Implementing an SDL Plan  
Quiz 4 | 50  
25 |
| 5          | Harwood: chs. 10-11  
1 presentation  
Lab 4 Worksheet | DB Forum 3  
Lab 4: Performing Quality Control Testing  
Midterm Exam | 50  
50  
150 |
| 6          | Harwood: ch. 12  
1 presentation  
Lab 5 Worksheet  
1 website | Lab 5: Creating Web Security Test Plans  
Quiz 5 | 50  
25 |
| 7          | Stuttard: chs. 4,21  
1 presentation  
Lab 6 Worksheet | DB Forum 4  
Lab 6: Performing a Security Assessment  
Security Assessment Findings Project  
Quiz 6 | 50  
50  
75  
25 |
| 8          | 1 presentation  
Lab 7 Worksheet  
1 website | Lab 7: Generating a Security Report  
Security Assessment Remediation Project | 50  
75 |
NOTE: Each course week begins on Monday morning at 12:00 a.m. (ET) and ends on Sunday night at 11:59 p.m. (ET). The final week ends at 11:59 p.m. (ET) on Friday.