CpS 485/486 – Cybersecurity Internships I & II

Summer 2023



Instructor: Dr. Jordan Jueckstock

Instructor:	Dr. Jordan Jueckstock
Office:	AL76
Office Hours:	Summer: electronic
Email:	jpjuecks@bju.edu
Telephone:	Cell: 864-361-6704
	Office: 864-242-5100 x 2289

Course Description:

This internship is designed to be a part-time or fulltime work experience totaling 120 or more hours in a technology-related job with security implications, which can include help desk support, network administration, desktop support, server support, and website maintenance. The internship program is designed to be flexible so that the student's employer and faculty administrator can work together to provide an experience that is both educational and eye opening for the student.

Course Overview:

Internships are designed to give the student practical work experience in their field of study while still a student. This provides an excellent advantage in the post-graduation job market. Most companies want you to have a completed college degree (with good grades) and experience. The internship provides a vehicle for getting some experience before graduation!

Context:

The faculty of the Computer Science department has aligned the cybersecurity program with the goals of the Mathematical Sciences Division, BJU Bible and liberal arts core objectives, and BJU institutional goals. The goal of the Computer Science department is to align all courses in the Computer Science, Cybersecurity, and Information Technology majors to support one or more of the following departmental goals. An asterisk indicates a specific goal fulfilled by this course.

• Design and implement solutions to practical problems *

- Use appropriate technology as a tool to solve problems in various domains *
- Create efficient solutions at the appropriate abstraction level
- Demonstrate an ability to work effectively in teams *
- Demonstrate an ability to communicate technological information effectively both in written and oral forms *
- Demonstrate an ability to acquire new knowledge in the computing discipline *
- Demonstrate an understanding of social, professional and ethical considerations related to computing *
- Demonstrate understanding of fundamental concepts in the student's discipline
- Prepare students for graduate school or to secure employment in a related area *

Course Goals:

- Design and implement solutions to practical problems.
- Demonstrate an ability to acquire new knowledge in the computing discipline.
- Provide the student a platform for continued learning and development of his or her God-given abilities.
- Instill in the student a desire to use his or her abilities in service to Christ.
- Help students gain valuable work experience in the field of information technology or computer science.
- Challenge students to let their light shine in the workplace in order to achive maximum impact for Christ.

Learning Objectives:

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

- Test his or her ability and desire to work effectively in the business world.
- Gain insight into what role a computer science person plays in the business world.
- Develop regular accountability for assigned responsibilities.
- Learn to interact properly with co-workers.
- Gain valuable business experience while performing various computer science functions for a company.

Course Requirements:

NOTE: This covers requirements for CpS 465/6, 475/6, and 485/6

- Work a minimum of 120 hours (spread out over a minimum of 6 weeks)
- Read 1 assigned book (WHICH YOU HAVE NOT ALREADY READ) from the following list:
 - Exploding the Phone (Phil Lapsley)
 - The Cuckoo's Egg (Cliff Stoll)
 - The Hacker Crackdown (Bruce Sterling)
 - Ghost in the Wires (Kevin Mitnick)
 - Spam Nation (Brian Krebs)

Once you've selected your book, send the instructor an email with subject: "*<CourseID>* Book Selection." You must read the book completely & submit an outline. Once your instructor has approved your outline you may then submit your book report.

- 1. Write a Cybersecurity Job Market Report. The purpose of this assignment is to get you to explore the cybersecurity job market. Go to bls.gov and search on various security related jobs. Write a 750-1000 word report on what you discover. Indicate the type(s) of jobs you are most interested in. Outline your game plan for landing such a job.
- Write 1 book report (1200-1500 words) and drop it in the Book Report dropbox
 Write an outline and a book report for the book you selected to read. Your report should demonstrate you
 have read and absorbed the entire contents of the book. Your report should have an appropriate title page
 which includes your name, name of the course, date completed, number of words.
 Use single spacing, with double space between each paragraph. Include your outline in each report, but
 NOT IN THE WORD COUNT. Put each outline item in bold before the appropriate paragraphs. Include
 page references where appropriate. Use the format [#], where # is the page number.
 Your wording should be professional and original (except where you are making specific references to the
 book). Spelling, grammar and logical flow will impact your grade.
 Write 1 summary paper about your work experience (750-900 words)
 - . Write 1 summary paper about your work experience (750-900 words) Follow the same format as the book reports. Your title page should include the name and contact information of your employer, total number of hours worked.
 - Your paper should focus on a summary of the work you performed, a summary of your problem solving log (I like to see each problem categorized into perhaps 1 of 8-12 categories, and then show the %). Describe how you think your internship experience will help you in the future.

Also include a paragraph I can use to "advertise" to other students who should consider taking an internship.

Submit your paper to the Summary Paper dropbox.

- 4. Post discussions about your work experience (250-350 words each) **every 2 weeks** during the regular fall/spring semester (or **every week** if you are on a 6-week work plan in the summer).
- 5. Maintain a log of problems encountered, research performed and solutions produced

This is likely to be the most valuable part of your internship! Much technology work is simply problem solving. Problem solving is a "learn by doing" activity. Learning to recognize patterns and the solutions to those patterns will make you a most valuable employee! I want you to keep a work log of all the problems you encounter during your internship. Each entry should include the following:

- date
- person or group having the problem
- brief description of the problem
- category of the problem (best to keep your number of categories to 12 or so)
- brief description of the resolution
- resource(s) used to resolve (help file, individual, web page, etc)
- See the Sample Problem Log in the course content for a pattern.
- A work evaluation must be submitted by your employer at the end of your internship experience

You can find the evaluation form in the Course Materials module.

Schedule: (See Canvas for dates/times for assignments)

Grading

#	Item	Pts.	Total
6	Discussions	50	300
1	Book Report Outline	50	50
1	Book Report	100	100
1	Job Market Report	100	100
1	Problem Log Journal Draft	50	50
1	Problem Log Journal Final	100	100
1	Work Hours Quiz	100	100
1	Summary Report	150	150
1	Supervisor's Evaluation	150	150
	TOTAL		1100

Grade	Score
А	90-100
В	80-89
С	70-79
D	60-69
F	< 60