

**COMP 3520 / 4530 – Software Engineering**

Assignment #4: Security Engineering

## Due Date: Beginning of your Seminar on March 6th, 2018

**Topics Covered:**

* Dependability and Security (Ch.10)
* Security Engineering (Ch.13)
* Resilience Engineering (Ch.14)

**Introduction:**

This assignment will assess your understanding of software dependability, reliability, security engineering, and resilience engineering. You will assess the security of the software you are delivering to your clients and argue that it is a dependable product.

**Problem:**

System security is a complex topic, as it involves different aspects of security, from building a secure system, operational procedures to keep it secure, and how to recover from an issue. Using, once again your start-up company, describe the security process and procedures you will implement in the software you are delivering to your clients. **This will require an analysis of the development process to verify secure design and development practices are followed. Operational procedures of how the system will be used by the client also need to be defined so that a secure procedure is followed. Finally, resilience of the system will be considered in the context of how to recover from a system issue.**

**Report:**

Create a formal report, including a cover page, table of contents, executive summary, body, conclusion and bibliography with references. Include page numbers, and figure references, etc. This report should be 6 to 10 pages in length.

**Key Questions:**

* Is your approach to software development such that a dependable product is the result?
* Is your approach to system design and operation such that the system will be resistant to external attack?
* Is your approach to software design and operation such that the system will recover from an issue?

### Marking Rubric

The marking of this assignment requires the student to demonstrate knowledge of how to build secure software, how to setup and run a system is secure and finally how the system can recover if an issue is encountered. The following grading rubric will be applied:

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| **Criteria** | **Requirements** | **Mark** |
| **Dependability**  **25%** | Is the approach to software development such that a dependable product is the result?  Typically a few pages in length. | **/25** |
| **Security Engineering 25%** | Is the approach to system design and operation such that the system will be resistant to external attach?  Typically a few pages in length. | **/25** |
| **Resilience Engineering**  **25%** | Is the approach to software design and operation such that the system will recover from an issue?  Typically a few pages in length. | **/25** |
| **Report Format**  **25%** | Quality of the written report. | **/25** |
| **Total /100** | | |