



**ITECH3150-6501 Principles of Software Engineering
Individual Assignment**

Semester 2013/17

Due Date: Refer to Course Description

In this first assignment, two software development methodologies will be examined using the first four laws given in the prescribed text.

Glass' law

Requirement deficiencies are the prime source of project failures. (L1)

Boehm's first law

Errors are most frequent during the requirements and design activities and are the more expensive the later they are removed. (L2)

Boehm's second law

Prototyping (significantly) reduces requirement and design errors, especially for user interfaces. (L3)

Davis' law

The value of a model depends on the view taken, but none is best for all purposes. (L4)

The first software development methodology will be the Waterfall Model, the second software methodology will be one of your own choosing provided that **it is not** the Agile Methodology nor the Rational Unified Process (RUP or UP).

For both the software development methodologies do the following:

1. Describe each law **in your own words**. Illustrate with a practical example.
[4 + 4 = 8 marks]
2. Your first task is to describe each software development methodology clearly and completely **in your own words**. You may use diagrams, examples or UML to help you do this.
[4 + 4 = 8 marks]
3. Using the **first four laws** of the text, show where these are either implemented or missing in each software development methodology (**Total Two**). If a law is missing, explain the consequences and suggest how the process might be improved.
[4 + 4 = 8 marks]

4. For each software development methodology, give an example of a project which it would be **well suited** for and one which it would be **inappropriate** for (**Total Two** projects for each software development methodology). Justify your answers. [4 + 4 = 8 marks]

Additional Item for ITECH6501

Moore's law

The price/performance of processors is halved every 18 months. (L45)

5. Describe and illustrate this law with examples. This law was published in 1965; is this law still valid today? Justify your answer with examples. [4 + 4 = 8 marks]

NOTE: All description should be in your own words. Your report should adhere to the guidelines for the presentation of academic work¹. Please review the Plagiarism section in the Course Description.

Marking Guide

ITECH3501 **ITECH6501**

Student Name: _____ **ID:** _____

Describe each law (four laws)	/ 4
Illustrate with a practical example (four examples)	/ 4
Describe each software development methodology (two methodologies)	/ 4
Use of diagrams, examples or UML	/ 4
Using the first four laws of the text, show where these are either implemented or missing in each software development methodology. If a law is missing, explain the consequences and suggest how the process might be improved.	/ 4
1. Waterfall Methodology	/ 4
2. Any other methodology provided that it not the Agile Methodology or the Rational Unified Process (RUP or UP).	/ 4
For each software development methodology, give an example of	
1. a project which it would be well suited for and	/ 4
2. one which it would be inappropriate for	/ 4
(Total Two projects for each software development methodology).	
Total	/40
Weight 10%	/10
Additional item for ITECH6501	/8
ITECH6501 Total	/48
ITECH6501 Weight 10%	/10
Comments:	

¹ <http://www.ballarat.edu.au/current-students/learning-and-study/resources/general-guide-for-the-presentation-of-academic-work>