## Software Engineering / Best Practices in Development

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| *SMS Code* | IN602001 | *Directed Learning hours* | 60 |
| *Level* | 6 | *Workplace or Practical Learning hours* | 0 |
| *Credits* | 15 | *Self-Directed Learning hours* | 90 |
| Prerequisites | 105 credits at Level 5 | *Total Learning Hours* | 150 |
| *This course partially replaces IT205001*  *Name of other Programme: Bachelor of Information Technology (version 2)* | | | |

***Aims***

To gain experience developing software using industry-recognised engineering methods and tools.

***Learning Outcomes***

At the successful completion of this course, students will be able to:

1. Analyse and critique the role of software development methods.
2. Contrast and compare a range of current development approaches from IT and other industries.
3. Apply appropriate methods and tools to implement a group project.
4. Discuss the ethical and social issues implicit in software development.

***Indicative Content***

This paper is a pre-requisite to the compulsory third year project and constitutes a practice run through what is required to design and implement a real IT project. Each year a new example project will be presented and developed in class and for assignments.

* Students will employ a development framework that incorporates agile development approaches in a structured framework.
* Students will go through three development iterations:
  + The first iteration is aimed at building understanding within the development group and client.
  + The second iteration is aimed at designing and releasing (to the client) a system that meets many of the functional requirements.
  + The third iteration, "robust delivery" is intended to review the success of the second iteration in meeting business requirements, to review functional requirements, and to deploy a robust implementation.
* The process will be reviewed by the students.

***Assessment***

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| **Assessment Activity** | **Weighting** | **Learning Outcomes** |
| Essay | 20 | 1, 2 |
| Exam | 20 | 3 |
| Project | 60 | 3, 4 |

***Resources***

**Required:**

Supplied readings

**Recommended:**

Cohn, M. (2004). *User stories applied: for agile software development.* Boston: Addison-Wesley.

Boehm, B. W., & Turner, R. (2004). *Balancing agility and discipline: a guide for the perplexed.* Boston: Addison-Wesley.

Schwaber, K. & Beedle, M. (2002). *Agile software development with Scrum.* Upper Saddle River, NJ: Prentice Hall.

Beck, K. (2000). *Extreme programming eXplained: embrace change.* Reading, MA: Addison-Wesley.