# Evaluation of all the level 200 & 300 courses

## BCCE301 Cooperative Education Project

**What I have learned and mapping to the project**

I have learned the software project development and delivery process from this course.

At the beginning of the project, the project proposal was developed, I developed the project architecture, identified risks and made the project time frame, the project proposal is the frame of the whole project.

During the project development, a set of project development and delivery methodologies were applied, including risk management, weekly reports, software development quality assurance, etc. All above actions made sure the project was developed with plan.

Also, SCRUM was applied to manage the development work. There were weekly meetings to discuss the previous weeks work and plan the next week of work. Show case meetings were held when project milestones were met.

Finally, after I finished the project, a post regarding the project was developed, which indicated all aspect of the project, including project interview, project process, project outcomes and course outcomes.

## BCIS301 Management of Information and Communication Technologies

In BCIS301 Management of Information and Communication Technologies course, I have learned how to identify and manage risks of an IT project and how to improve quality assurance level of an IT project.

Risk management and Quality Assurance were both applied during my whole project.

For risk management, I identified several risks and built risk management models for each risks before project.

The effective risk management and quality assurance help me to develop a very successful project.

## BCPR294 Server Side Web Programming

In BCPR294 Server Side Web Programming, I learned PHP as a web side programming language, PHP is a popular general-purpose scripting language that is especially suited to web development. Fast, flexible and pragmatic. I practiced a lot of examples during the course and developed a small light-weight PHP MVC framework. My framework was designed and developed based on object-oriented programming, it followed on MVC design pattern. What’s more, it provided a large number of features, for example, single entrance, class autoload, user session validation, pagination, a set of base tool classes, configurable, etc. My final assignment in PHP was developed based on this Tsun PHP framework.

Meanwhile, I learned the Laravel by myself, Laravel is accessible, yet powerful, providing tools needed for large, robust applications.

The project server side was developed based on Laravel, it provided RESTful APIs to clients. The data exchange between server and clients is JSON, Laravel/PHP can support JSON perfectly which made the development much easier.

Part of User authentication was done by PHP side, a library PHP-JWT was imported for decoding the access token and do authentication.

From my point of view, PHP is a very useful server side programming language, you can develop a website easily and fast by PHP. Also, it is an Object-Oriented language, you can follow all best practice programming conventions to develop your projects by PHP, apply design patterns, which will make your project flexible and easy to maintain in the future.

## BCIT242 Website Development

BCIT242 Website Development is a course regarding HTML5, CSS3, Javascript, which are front-end programming skills. During this course, I’ve gained a lot of useful knowledge about how to build a website and practiced a log of examples.

With the development of mobile technologies, more and more people would like to access websites through their start phones, tablets, therefore, responsive design would be a basic requirement for a website. Responsive design is an approach to web design aimed at crafting sites to provide an optimal viewing and interaction experience—easy reading and navigation with a minimum of resizing, panning, and scrolling—across a wide range of devices (from desktop computer monitors to mobile phones). BCIT242 focuses on responsive design and guides students to develop responsive websites, I think it is very useful.

What’s more, jQuery is imported into BCIT242. jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

Finally, the assignment 1 one this course taught me a lot as well. The assignment 1 was develop a website specification, which included plan, target audience identification, time-line, website hosting solution, website design, testing, etc. Almost all aspects about process of website development had been involved.

In this project, one kind of client was developed by HTML5, CSS3 and Bootstrap3, I applied the knowledge which I gained from BCIT242 to build the whole browser based web client.

## BCPR301 Advanced Programming

BCPR301 Advanced Programming was to give students an understanding of programming for reuse. Three main parts of this course were: a new programming language Python, Refactoring and Design Pattern. This course was a quite useful course for programming, it can improve programming skill dramatically.

First, a new programming language python was taught. Python is a widely used high-level, general-purpose, interpreted, dynamic programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than possible in languages such as C++ or Java.

Secondly, I learned theory of refactoring and practiced a log of examples about refactoring. Refactoring is the process of restructuring existing computer code changing the factoring without changing its external behavior. Refactoring improves nonfunctional attributes of the software. Advantages include improved code readability and reduced complexity; these can improve source-code maintainability and create a more expressive internal architecture or object model to improve extensibility.

During the project, I did refactoring to my android app once, abstracted a new class and pull up several methods into it, which improved code reusability and made the code easy to maintain and extend in the future.

Thirdly, I learned design pattern in this course as well. Design patterns solve specific design problems and make object-oriented designs more flexible, elegant, and ultimately reusable. Design patterns are extremely useful for advanced programming.

## BCIT388 Mobile Technology

I gained skills and knowledge to analyse and determine ways to use mobile technology, design and develop mobile apps. The android app in this project benefited a lot from this course, including, design, development and usability improvement.

Usability is very important for an android app, I followed following guideline to design and develop the android app during the project:

1. The layout and text content of a page must be adaptable to the user interface.
2. Ensure user access to all content.
3. Allow users to control time limits on their reading and interaction.
4. Provide mechanisms to help users find content, orient themselves within it and navigate through it Support input and output device-independence
5. Help users avoid mistakes and make it easy to correct them.

## 9.7 Course Content Recommendations

For BCPR294 Server Side Web Programming, I think current course arrangement is very good, just if a class can be arranged to introduce the popular PHP frameworks, such as Laravel, Symfony2, Yii, etc.

For BCIT242 Website Development, Bootstrap has become the most popular CSS framework and real standard of Web front end development, it would be better if Bootstrap can be introduced in the BCIT424 class.

For BCPR301 Advanced Programming, It would be perfect if the final exam weight becomes a little bit less, although a lot of theory would be taught in this course, there is no much value if the theory cannot be converted to programming. This is a programming practical course, programming is supposed to have more weights.