Evaluation of level 6 & 7 courses in BICT

BCPR280 - Software Engineering 2

Identification of course content

- Using HTML, JavaScript, React, Vue NodeJS to build Single page applications.
- Using Jasmine to build unit tests
- Using MVC structure to build the applications
- Creating static and dynamic UML diagrams
- PSP process

Evaluation

This course really helped with my project. Learning different frameworks to help build a single page application helped me understand how useful it is to use a framework. The MVC structure was my first design pattern that I encountered and understanding that helped me realise that structuring the foundations of an applications has pros and cons to it.

The PSP process helped me better myself in coding in future courses, but I did not use this process for my project. Using UML diagrams to communicate ideas to my industry mentor has been incredibly gratifying as I struggled in 2nd year to create this diagram. Having Jason communicate back to me in this language helped me realise how far I've come.

Recommendation

Include strongly typed and loosely typed languages. This would have helped me compare and understand coding concepts such as interfaces much better.

BCPR282 - Best Programming Practices in Java

Identification of course content

- Use MVC structure to code a game
- Use best programming practices
- Conform to industry code standards
- Create unit tests that has 100% code coverage
- Create static and dynamic uml diagrams

Evaluation

This course was one of my favourite courses as it was my first-time coding in a strongly-typed language. It helped wrapped concepts that I never understood in BCPR280 such as using interfaces and how to properly use the MVC structure. This course helped me realise that there are industry standards when coding in certain languages and best practices when creating unit tests for 100% code coverage. These lessons of coding in a strongly typed language really helped with coding in TypeScript for my project.

Recommendation

Keep at it! This course is great as it is. I enjoyed coding the eyeball maze and seeing a model run in Eclipse then seeing how I can transfer this into Android studio for it to be played as a mobile application. I would recommend finding a way to speeding up the time for android studio to start up as it can take up to 30minutes in class.

BCPR294 - Server-Side Web Programming
Identification of course content

- OWASP and security features
- Databases
- SOLID principles
- Cookies and sessions
- PHP
- Localisation
- RESTful services

Evaluation

This course was one of the core courses used in helping me troubleshoot issues in my project. Understanding cookies and sessions helped me understand how ThirdEye works as an application. This course helped me understand concepts such as a servers generating dynamic content to users instead of using static html pages. There was a lesson where Amit was discussing how servers and clients interact which helped with understanding how ThirdEye works as an application. Through the lessons of localization and restful services, I understand how important a URL is in terms of troubleshooting and passing information between client and a server. This was incredibly beneficial when debugging issues that occurred when using the ThirdEye application.

Recommendation

More lessons on the security side of PHP. It was interesting to see the top 10 OWASP attacks and having lessons on the top 3. Understanding how developers can protect against these attacks was one of the most enlightening lessons at Ara.

BCIS206 - Professional Practice (Summer course)
Identification of course content

- Creating a professional CV
- Present findings in a professional manner
- Being mindful of culture and diversity in a workplace
- Being SMART with planning
- Ethics

Evaluation

This was a summer course for me. This course will help me with my panel presentation. When I was being interviewed by Mindy for a chance to undertake this project, I used the same CV created from the professional practice course and updated it. There was not much else in this course that helped me with the project.

Recommendation

I really enjoyed the debates in this course. I would recommend having the students debate against the teachers to see the difference in debating skills and justifying arguments made.

BCPR203 - Database Management Systems
Identification of course content

- Understanding the foundations of database technology
- Create an SQL database
- Design, develop, implement and use a relational database

Evaluation

This course is an amazing course for students new to databases. I really enjoyed the guest speaker Hamish Watson and his presentation on Databases and what's coming in the industry. Unfortunately I did not create a relational database in this project. Learning the basics of creating queries and designing a database schema has helped with future courses such as PHP. I did think of data visualization when thinking of ways to present the test results.

Recommendation

More database courses. I really enjoyed the theory side of this course. Understanding the use of normalization and how data visualization can help a business was interesting and enlightening.

BCIS202 - IT Service Management

Identification of course content

- Analyze an organization and identify internal processes
- Understand ITIL and how it can help an organization
- Create SMARTER goals

Evaluation

This has been one of my favourite courses as it helped me identify IT processes that are in place when I was working at IAG. Being able to identify processes and knowing the terms for them really helped me understand how IAG worked internally as a whole. This course has helped me see IT processes used by Jade as well. Philip was amazing in marking the reports as he provided feedback that we could use for our next report. At the end of this course, I felt confident in writing a professional report. Philip provided real world explanations and scenarios that really tied together the concepts taught such as service level agreement between organisations. Another lesson learnt from this course was writing, reading and analyzing an agreement. I wrote an agreement that Philip instantly took apart. From there I understood the importance of being SMARTER when writing agreements.

Recommendation

Pay Philip more money as he makes this course invaluable.

BCIS201 - IT Solutions Deployment

Identification of course content

- Identify and analyze IT solution development methodologies

Evaluation

This course helped with understanding different development methodologies and identifying the pros and cons of each. Relating the theory of methodologies used by real world case studies helped me understand the significance of planning for a project and symptoms of a project that is beginning to fail.

Recommendation

None. This course was enlightening and I learnt a lot from the content taught. It has helped me with critically think about the methodology used at Jade.

BCIT253 - Interactive Media Tools and Concepts
Identification of course content

- Use interactive media design principles
- Apply best design practices through various design tools
- Create an application from using best design practices

Evaluation

This was my first exposure in writing briefs, using a storyboard and understanding the principles behind good graphics, animation, audio, text and video. The content provided in this course was invaluable as I have applied the principles in reports, posters and justifying design arguments. Using the various adobe tools was a lot of fun and has helped me with creating content for future courses too. This course has helped tremendously in future course such as editing media sources for posters, reports, images for and mobile apps.

Recommendation

I would recommend removing Opus Pro as I think that is an obsolete tool now. Otherwise this course is perfect in its delivery and content.

BCIS285 - Software Applications and IS Testing
Identification of course content

- Using and understanding different testing strategies such as pairwise testing, equivalence partitioning, requirements testing, boundary testing, black-box testing, white-box testing.
- Using Selenium to interact and create web application test cases.
- Using Mocha and Chai to create unit tests
- The seven principles of testing

Evaluation

This course has been one of the most useful ones for the project. This course has helped me in automating tests, writing structured tests and writing reports. Learning the Protractor framework was easier than the other frameworks due to Protractor being a wrapper for Selenium. I recommend

this course for students in the software development pathway as it shows different ways to testing. Having spoken with developers at Jade, testing is a fundamental knowledge that is required.

Recommendation

None. This course is a great foundation for students wanting to know more about testing or improve their skills in writing tests.

BCPR301 - Advanced Programming

Identification of course content

- Using design patterns to refactor code
- Removing bad smells from code
- Analyze and discuss the pros and cons of a design pattern
- Use best coding practice to develop a solution and evaluating it

Evaluation

The knowledge from this course was crucial in my project. I had to evaluate my design architecture and see what the weaknesses were and see if I could add more components without making the architecture more complex. Refactoring bad smells helped me reduced code in some of my page object model classes. This course helped me understand how to identify relationships between classes by looking at the code. Other lessons that helped me in my project was version control and how to make the most out of a code review. This course tied off loose ends I had from previous courses and is the perfect course for a programming student to end on before beginning their project.

Recommendation

There is nothing I would want to see changed in the course. I would recommend having this course taken earlier such as in year 2. I felt that this course gave me the confidence to code as the knowledge gained from this course provides a student a means to justify their solution and able to see abstract concepts regardless of coding language.

BCIT388 - Mobile Technology

Identification of course content

- Understand mobile security, gamification, tracking and web analytics mobile design and usability and emerging mobile trends.
- Create a mobile application using knowledge from the above topics

Evaluation

Lessons on tracking and web analytics helped me debug and troubleshoot when I was stuck on the session issue in my project. I did not use much else of the content from this course in my project. I enjoyed various lecturers coming in and presenting a topic. I used the lessons from gamification and mobile design and usability on my future course work such as Java. The lessons in creating a poster was used in creating the project poster for Emerge.

Recommendation

There is nothing I would recommend changing when looking back at this course retrospectively.

BCIS302 - Managing Information and Cybersecurity
Identification of course content

- Understand network infrastructure, network protocols and services
- Understand how SIEM works, cryptography and incident handling and response
- Apply networking and cyber security knowledge in a case study

Evaluation

In one of the labs, you are required to learn regex. With this knowledge, I was able to manipulate strings much more efficiently. When faced with the proxy issue in my project, I understood straight away what a proxy does from the networking infrastructure knowledge from this course. This course has provided me the foundations of recognizing what interactions my solution undertakes before getting to the internet. This knowledge is transferrable to future projects as networking commands in windows and linux would help with finding out about current processes and ports that are open to better my troubleshooting skills.

Recommendation

Ian, David and Sarah were great at teaching the content. However sitting in a classroom and watching a lecturer read from a powerpoint slide then discussing the idea further was not the best approach in delivering the content. This sentiment was shared throughout the class while the content was taught. The lecturer justified the approach by saying it was a "flipped" teaching method where we learn the content and he will brush up on it in class. Regardless if the lesson is flipped or not, the lecturer is still reading from a powerpoint for 4 hours a week. I recommend changing the delivery of the content as soon as possible.

BCIS301 - Management of Information and Communication Technologies

Identification of course content

- Strategically analyse and evaluate in a structural manner

- Perform different methods of strategic analysis.

- Apply concepts of governance

Evaluation

This course has helped me with providing a template for risk assessment and providing me the knowledge of how to justify the work that I have done in this project. I have not used much of the content taught in this course anywhere else. There is definite value in learning how to analyze and evaluate information and data in a structural manner as this has been used in the Cybersecurity course that I am taking.

Recommendation

This course is the gateway into obtaining and preparing for a project. There were a few topics in this course such as IT governance and COBIT that was not necessary. The lecturer's justification was that we were to learn only bits of it so that we can take it out into the real world and use it. Both these topics are large, and it made no sense as to why you would cherry pick aspects of IT governance and COBIT. Both these topics span and affect a whole organization. It does not make sense to cherry pick aspects of it and then make recommendations that would affect a whole organization. It was further advised that during a job interview, you can list the lessons learnt COBIT to show that you know it. I disagree with this statement because if we cherry picked aspects of COBIT or IT governance and tried to sell this knowledge in a job interview, if we were pushed on other topics in COBIT or IT governance, we would fail. I would recommend removing the COBIT and IT governance portion out of the course and commit to this learning in its own mandatory course.

Level 200 and 300 course reflection

During the first year at Ara I was confused by why we had to take a variety of courses such as courses in Information systems, networking and software development. Looking back on that now and having seen developers work and trouble shoot, I noticed that knowledge gained from those courses helped with my project. For example - Understanding how a solution interacts with other entities on a network such as my solution being blocked by a proxy server.

Looking back at the courses done retrospectively, I realised that the courses specific to software development helped me learn the technical skills in becoming a developer while other courses

taught me lessons that would benefit a developer such as writing documentation, collaborating in teams, analyzing an organization, seeing where I apply myself to be of best value to an organization and soft skills. Overall, I felt that the courses at Ara has prepared me as best as possible for the project.