Launching into Cybersecurity – Units 7 - 9

This 12-week module introduces the various core elements of the MSc. Cybersecurity programme at the University of Essex Online. It intends to ensure a basic understanding of the primary skills covered in complete detail during all relevant modules. It also provides insight and understanding of how the different practices and occupational roles combine to offer a robust body of knowledge and skillset required to succeed in the field. Furthermore, it is beneficial to all who would master this critical field to gain a fuller understanding of the contribution and importance of all elements. As the units tend to build one upon another and contain summary review and reflection every few units, these note entries will follow a similar track and cover three units in each.

This unit summary covers units between 7 - 9, and the stated unit outcomes are:

- Develop the conceptual framework for database design.
- Apply the principles to implement a database management system.
- Understand database security issues.
- Implement basic Python scripts.
- Develop the ability to troubleshoot syntax and semantic errors in code.
- Develop the ability to implement a database using MySQL database management package.
- Develop the capacity to write Python script to accept input and store data in MySQL database.
- Implement security measures to data.
- Identify errors in security solution implementation code.
- Understand validated security requirements.

Progressive Learning Experience

These units helped to understand better the database designing from a secure by default perspective. Significantly contributed to the pending module project by addressing the potential issues and impacts of security during each section of the database designing. Realised how any of the dull functions can have a noticeable effect on related data. Moreover, these units also supported pros/cons analyses of functionalities vs security implications. Lastly, helped in developing tools and methods to find errors in syntax or algorithms in python code.

Personal Take-Away for Units 7 - 9

The collaborative discussions and critical analysis of other students were valuable in expanding viewpoints and critical analysis.

Essential Readings

During these units, following reading assignments are completed

- *Downey, A., Elkner, J. & Meyers, C. (2012) How to Think Like a Computer Scientist. Learning with Python. Massachusetts, USA: Green Tea Press.*

- *Connolly, T. & Begg, C. (2005). Database Systems. A practical Approach to Design, Implementation, and Management. Reading. Pearson / Addison Wesley.*

Additional Readings

During these units, following reading assignments are completed

- *Connolly, T. & Begg, C. (2005). Database Systems. A practical Approach to Design, Implementation, and Management. Reading. Pearson / Addison Wesley.*