Centre for
CONTINUOUS
PROFESSIONAL
DEVELOPMENT

Business Intelligence

(Certificate of Competence)

Note:

This course is currently not offered on a public basis but can be customised and offered on an in-house basis.

ENQUIRIES: ccpd@spu.ac.za

Course Duration	90 contact hours
Entry level requirements and rules of admission	NSC or equivalent

Rationale for offering this course:

Data is now the cornerstone of most organizations both in the private and public sector. Within these organisations, executives depend on BI dashboards for decision making and tracking most business KPIs.

As many organisations adopt a data driven approach to decision making, business intelligence becomes imperative to enable the businesses in transforming raw data into business insights. As such, organisations are increasingly looking for employees with business intelligence skills. This course intends to provide such training for employees to be able to extract, transform and visualise data in the creation of business intelligence dashboards that will facilitate data-driven decision making in organizations.

Therefore, the target market for this course are ICT employees in different public and private sector entities as well as any computer literate employee with the desire to pursue a career in business intelligence or develop business intelligence dashboards for their operations.

COURSE OVERVIEW:

Course Content	The course focuses on the foundational concepts of business intelligence from data access to processing and subsequent visualizations. The content is centered around five themes as follows: • Introduction to Business Intelligence • Structured query language (SQL) • ETL and ELT Data Extraction • Accessing Databases Using Python, and • Data Visualization and Dashboarding
Specific Outcomes	**Outcome 1:** By the end of this module the students should be able to: • Understand the following concepts of Business Intelligence - Product - Process - Technology (including Hadoop) • Demonstrate and understanding of the seven-step modeling process. **Outcome 2:** By the end of this module the students should be able to: • Demonstrate a working knowledge of databases and SQL • Discuss relational (SQL) database concepts • Apply the SQL language to manipulate data • Determine best techniques to use in a specific context for different aspects of SQL **Outcome 3:** By the end of this module the students should be able to: • Demonstrate an understanding of the ETL and ELT process

	• Apply the ETL and ELT approach to convert raw data into analytics-ready data • Understand the difference between ETL and ELT approach **Outcome 4:** By the end of this module the students should be able to: • Describe the basic concepts related to using Python to connect to databases • Use Jupyter Notebook to create tables, load data and query the data • Analyse data using Python **Outcome 5:** By the end of this module the students should be able to: • Visualize data and learn about the basics of dashboarding • Create a simple dashboard
Critical cross-field outcomes	The following will be covered in the course: 1. Identify and solve problems 2. Organise and manage themselves 3. Collect analyze and evaluate information 4. Communicate effectively 5. Use science and technology effectively 6. Recognize problem solving contexts 7. Reflect and restore effective learning strategies 8. Explore education and career opportunities 9. Develop entrepreneurial opportunities
Teaching and learning strategies	• Lectures (face-to-face or online). A lecture is normally a presentation or demonstration designed to give an overview of a topic. • Independent study Students will be expected to take responsibility for learning and need to manage time effectively to fit this around the academic timetable and any other activities. • Practical learning Students may be asked to work independently, in pairs, or as part of a small team to submit a piece of work that will count towards their overall assessment. • Individual/group project An essential part of the learning activities would be to engage the participants. The course will focus on active learning strategies. One approach will be peer teaching, where participants will demonstrate digital implementations to their peers and receive feedback. Group discussions and flipped classrooms will also be used.