CUNNINGHAM
UNIVERSITY COLLEGE
GHANA, CUCGH
Knowledge, Innovation, Impact
Gnósi, Kainotomía, Epídrasi

www.cucgh.com

School of ICT & Digital Skills

In partnership with International School of Business (ISB), Dubai

About CUCGH

Cunningham University College Ghana (CUCGH) is a pioneering institution based in East Legon, Accra, committed to nurturing digital talent across Africa. Our School of ICT & Digital Skills delivers practical, industry-relevant programs designed to equip learners with real-world technological competencies. We are recognized by the Ghana Tertiary Education Commission (GTEC) and operate with international standards for professional training and academic excellence.
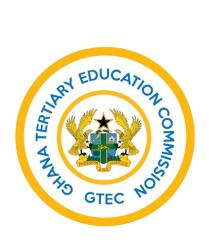

About ISB, Dubai

The ISB, Dubai is a globally recognized institution offering business and technology education across the Middle East, Africa, and Asia. ISB is accredited by leading international regulatory bodies and is renowned for its career-focused certificate and diploma programs. With a strong emphasis on experiential learning, ISB supports global learners with future-ready digital and analytical skills.

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ACCREDITATIONS & PARTNERSHIPS

CUCGH is accredited by GTEC (Ghana Tertiary Education Commission) and affiliated with multiple international institutions.

ISB, Dubai is registered and accredited under KHDA (Knowledge and Human Development Authority), Dubai.

Joint certification recognized in both Ghana and the UAE, providing learners with global career mobility.

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PROGRAM SUMMARY

The Diploma in Data Science & Analytics is a foundational, hands-on training program designed for professionals, students, and business leaders who want to leverage the power of data to solve problems, drive innovation, and make data-driven decisions.

FORMAT: Instructor-led training + guided self-study modules

Certification: Certificate of Completion from **ISB, Dubai**

Mode: Hybrid (In-person or Online)

Eligibility: Open to all backgrounds; no coding experience required

Recommended for:
○ Business Analysts
○ IT & Data Professionals
○ Entrepreneurs
○ University Students
○ Project Managers & Policy Advisors

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Learning **Outcomes**

Participants will:

- Understand the role of data science in modern business and research
- Analyze datasets using **Excel** and **Python**
- Build impactful dashboards and data visualizations
- Explore **machine learning** models and their real-world applications
- Learn the ethical implications of data use and governance

Instructor-Led Practical **Training**

1 Introduction to Data Science & Analytics

- Definition, evolution, and real-world applications
- Lifecycle: Data collection → cleaning → analysis → visualization
- Roles comparison: Analyst, Scientist, Engineer
- Types of analytics: Descriptive, Diagnostic, Predictive, Prescriptive
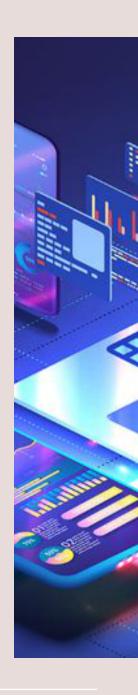
2 Data Analysis with Excel & Python

- Data cleaning, formulas (VLOOKUP, IF), pivot tables in Excel
- Python setup with Anaconda, use of Jupyter Notebooks
- Python data structures: lists, dictionaries, pandas DataFrames
- Project: Clean and analyze datasets in Excel and Python

3 Data Visualization & Storytelling

- How to communicate data insights visually
- Creating dashboards in Excel
- Intro to matplotlib & seaborn (Python libraries)
- Tools demo: Google Data Studio, Tableau Public
- Mini-project: Present insights from a sales dataset

4 Machine Learning & AI Basics

- What is AI and machine learning?
- Algorithms: Linear Regression, K-Means Clustering, Decision Trees
- Beginner tools: scikit-learn, TensorFlow
- Real-world use cases: fraud detection, customer segmentation
- Data ethics: privacy, bias, fairness in AI

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SELF-STUDY MODULES

Participants will also complete a curated set of online modules to deepen theoretical understanding:

Module 1 – Introduction to Data Science

- **IBM:** What is Data Science? (https://www.ibm.com/cloud/learn/data-science-introduction)
- **Microsoft:** Data Science for Beginners (https://www.youtube.com/playlist?list=PLlrxD0HtieHiXd-nEby-TMCoUNwhbLUnj)

Module 2 – Python for Data Analysis

- **W3Schools:** Python Basics (https://www.w3schools.com/python/)
- **Real Python:** Pandas Tutorial

Module 3 – Data Visualization Techniques

- **Tutorials Point:** Matplotlib Guide (https://www.tutorialspoint.com/matplotlib/index.htm)
- **Free Code Camp:** Data Viz in Python (https://www.youtube.com/watch?v=FytuB8nFHPQ)

Module 4 – Statistics for Data Science

- **Towards Data Science:** Statistics Article (https://towardsdatascience.com/statistics-for-data-science-d68f9c5c4b7b)
- **Khan Academy:** Intro to Statistics (https://www.khanacademy.org/math/statistics-probability)

Module 5 – Machine Learning Fundamentals

- **Google:** ML Crash Course (https://developers.google.com/machine-learning/crash-course)
- **Simplilearn:** ML for Beginners (https://www.youtube.com/watch?v=ukzFI9rgwfU)

Module 6 – Data Ethics & Governance

- **ODI:** Data Ethics Principles (https://theodi.org/article/data-ethics-principles/)
- **Talend:** Governance Guide (https://www.talend.com/resources/what-is-data-governance/)

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