COURSE OVERVIEW

Course Name:
(CN-CEE)
CertNexus Certified
Ethical Emerging
Technologist

COURSE DURATION: 3 Days

Gauteng:
3rd Floor, 34 Whitely Road
Melrose Arch
Johannesburg
2196

Gauteng:
192 on Bram
192 Bram Fischer Drive
Ferndale, Randburg
Johannesburg
2160

Cape Town:
3rd Floor, Thomas Pattullo Building
19 Jan Smuts St
Cape Town
8000

Durban:
9 Mountview Close
Broadlands
Mount Edgecombe
Durban
4302

📞 **087 941 5764**
✉ **sales@impactful.co.za**
🌐 **impactful.co.za**

INTRODUCTION

Mutually reinforcing innovations in computing and engineering are catapulting advances in technological production. From blockchain and AI to gene editing and the Internet of Things (IoT). These advances come with tremendous opportunity for improvement in productivity, efficiency, and human well-being. But as scandals increasingly demonstrate, these advances also introduce new and serious risks of conflict and harm.

Technology professionals now face growing demands to identify and mitigate ethical risks to human rights and the environment, as well as to navigate ethical trade-offs between qualities such as privacy and accuracy, fairness and utility, and safety and accountability.

DELIVERY METHOD

Our courses have flexible delivery options:
- In-person classroom training at the Impactful training facilities
- Johannesburg, Durban, Cape Town
- Virtual instructor-led training
- Nationally: on-site at the client

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TARGET AUDIENCE

This course is designed for technology leaders, solutions developers. Project managers, organizational decision makers, and other individuals seeking to demonstrate a vendor-neutral, cross-industry understanding of ethics in emerging data-driven technologies, such as artificial intelligence (AI), robotics, internet of things (IoT), and data science. It is also designed for professionals who want to pursue the CertNexus Certification exam CET-110: Certified Ethical Emerging Technologies.

PREREQUISITES

To ensure your success in this course, you should have a firm understanding of concepts related to emerging technologies, along with some experience in implementing AI, data science, and/or IoT to solve business problems, which you could obtain by taking the following courses:

- Certified Artificial Intelligence (AI) Practitioner (Exam AIP-110)
- Certified Internet of Things (IoT) Practitioner (Exam ITP-110)
- Certified Data Science Practitioner (CDSP) (Exam DSP-110)

COURSE OBJECTIVES

This course provides the tools to identify and manage common ethical risks in the development of emerging data-driven technologies. It distils ethical theory, public regulations, and industry best practices into concrete skills and guidelines needed for the responsible development of digital products and services. By following the course's practical, problems-based approach, learners will become adept at applying theories, principles, frameworks, and techniques in their own roles and organizations.

COURSE CONTENT

Lesson 1: Introduction to Ethics of Emerging Technologies
- Topic A: What's at Stake
- Topic B: Ethics and Why It Matters
- Topic C: Ethical Decision-Making in Practice
- Topic D: Causes of Ethical Failures

Lesson 2: Identifying Ethical Risks
- Topic A: Ethical Reasons
- Topic B: Stumbling Blocks for Ethical Reasoning
- Topic C: Identify Ethical Risks in Product Development
- Topic D: Tools for Identifying Ethical Risks
- Topic E: Use Regulations, Standards, and Human Rights to Identify Ethical Risks

Lesson 3: Ethical Reasoning in Practice
- Topic A: Ethical Theories
- Topic B: Use Ethical Decision-Making Frameworks
- Topic C: Select Options for Action
- Topic D: Avoid Problems in Ethical Decision-Making

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Lesson 4: Identifying and Mitigating Security Risks
- Topic A: What Is Security?
- Topic B: Identify Security Risks
- Topic C: Security Trade-offs
- Topic D: Mitigate Security Risks

Lesson 5: Identifying and Mitigating Privacy Risks
- Topic A: What Is Privacy?
- Topic B: Identify Privacy Risks
- Topic C: Privacy Trade-offs
- Topic D: Mitigate Privacy Risks

Lesson 6: Identifying and Mitigating Fairness and Bias Risks
- Topic A: What Are Fairness and Bias?
- Topic B: Identify Bias Risks
- Topic C: Fairness Trade-offs
- Topic D: Mitigate Bias Risks

Lesson 7: Identifying and Mitigating Transparency and Explainability Risks
- Topic A: What Are Transparency and Explainability?
- Topic B: Identify Transparency and Explainability Risks
- Topic C: Transparency and Explainability Trade-offs
- Topic D: Mitigate Transparency and Explainability Risks

Lesson 8: Identifying and Mitigating Accountability Risks
- Topic A: What Is Accountability?
- Topic B: Identify Accountability Risks Topic C: Accountability Trade-offs
- Topic D: Mitigate Accountability Risks

Lesson 9: Building an Ethical Organization
- Topic A: What Are Ethical Organizations?
- Topic B: Organizational Purpose
- Topic C: Ethics Awareness
- Topic D: Develop Professional Ethics within Organizations

Lesson 10: Developing Ethical Systems in Technology-Focused Organizations
- Topic A: Policy and Compliance
- Topic B: Metrics and Monitoring
- Topic C: Communication and Stakeholder Engagement
- Topic D: Ethical Leadership

ASSOCIATED EXAMS & CERTIFICATION

Appendix A: Mapping Course Content to Exam CET-110: Certified Ethical Emerging Technologist Certification Objectives

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