

## Information Technology Administrator (Cybersecurity) + Internship



### PROGRAM OBJECTIVES

The Information Technology Administrator (Cybersecurity) diploma program at Eastern is 62 weeks. It includes a 12-week internship. Eastern College knows what it takes to prepare graduates for careers in this field and this program focuses on building skills that are in key demand within today's IT industry. Students will learn how to design, implement, and audit security within an enterprise and cloud environment, as well as detect, respond to, and investigate the different types of security breaches prevalent in today's complex threat landscape. The courses within the program relate to twelve (12) industry certification examinations. Students are provided with 6 certification exam vouchers to write the certifications they wish to pursue.

### CERTIFICATIONS

Students who successfully complete this program will be eligible to write certification exams leading to the following designations: CompTIA A+ (2 vouchers), CompTIA IT Project+, CompTIA Network+, CompTIA Linux+, CompTIA Security+, CompTIA CySA+, CompTIA Pentest+, CompTIA CASP+, Cisco CCNA, CWNA and Microsoft Desktop Administrator Associate (MDAA): Windows 10 (2 Vouchers).

These certifications are comprised of twelve (12) available certification vouchers for eleven (11) certification examinations. Students are provided with six (6) certification exam vouchers to write the certifications they wish to pursue.

### CAREER OPPORTUNITIES

Graduates of our program will have the opportunity to start careers in Windows Server Administrator, Active Directory Administrator, Project Manager, Cisco Administrator, Linux Administrator, Security Specialist, Cybersecurity Analyst.

### PREREQUISITES

1. Student has Grade 12 or equivalent or meets criteria for Mature Student Status.
2. Mature students must be 19 years of age, pass a qualifying test, and provide a Letter of Intent OR resume that supports their skills and aptitudes to be successful in the program.
3. The approved qualifying test for this program is the Wonderlic test. A passing score for this program is 20.

### GRADUATION REQUIREMENTS

Eastern diplomas will be granted only to students who successfully complete all courses in the program with a passing grade of 60% (or a grade of 'complete' where applicable). As well, students must meet the minimum Standards of Satisfactory Scholastic Progress as set out in our Student Handbook. For programs that include an internship, all internship hours must be completed and a final grade of 'Pass' must be achieved for the internship.

### TECHNICAL REQUIREMENTS

For updated technical requirements of your program, please click here:

[Business, Healthcare, Law, and Supply Chain Programs](#)

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### EXAM PROCTORING

While studying online, there will be several courses that will require a final exam or assessment that is proctored to ensure academic integrity is maintained. Students will have two options:

Option 1 – students complete the exam from home with remote proctoring. Students will be recorded and observed during the exam using Proctorio remote exam proctoring. Students must write the exam on the computer that meets the minimum system requirements as outlined above.

Option 2 – student may come in-to any Eastern College campus and write the exam in person. If you would like to write the exam in person, you will need to schedule this time in advance with your instructor.

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## HOW AI IS USED IN TECHNOLOGY PROGRAMS:

### **What is AI?**

**Artificial Intelligence (AI)** is an evolving technology that attempts to simulate human intelligence using computer programs. At the heart of AI is **Machine Learning (ML)**, which correlates large amounts of data to learn the relationships between different data elements. AI and ML products can be used by both IT professionals and software developers to save time on certain tasks.

### **How do IT professionals leverage AI on the job?**

Most IT professionals use AI to obtain or generate information that they would have previously obtained online using a search engine, such as Google. This could include generating summaries for reports and documentation, generating scripts (e.g., PowerShell, BASH), and generating infrastructure configuration templates (e.g., Ansible playbooks).

### **How do Software Developers Leverage AI on the job?**

Nearly all modern development tools now have AI-based autosuggestion, code generation, and documentation abilities. Software developers can choose to autofill in certain lines of code, as well as generate the initial structure (called stub code) for a new program to give them a solid starting point for development. Additionally, software developers can leverage AI tools to add the necessary documentation to existing code to save time

### **How do we approach AI in our programs?**

While AI can be used to save time, all AI-generated content must be reviewed in depth by someone with content expertise to ensure that it provides the necessary functionality, and in a way that adheres to corporate standards, security, and software/ copyright licenses. Thus, you must first have a solid understanding of IT administration or software development to leverage AI effectively in those fields.

At Eastern, we leverage AI to generate content throughout several courses in the program, but only where appropriate, and in ways that mimic the use of AI in the workplace. Additionally, all AI generated content is thoroughly reviewed before use to ensure functionality, security, copyright adherence, license compatibility, and quality. Students will not learn how to create new AI technologies; however, students will learn how to use existing AI tools where appropriate.

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## PROGRAM OVERVIEW

Course	Hours	Weeks
Student Success Strategies	20	1
Career Management	20	1
PC Support	80	4
Windows Client Administration	120	6
Windows Server and Active Directory Administration	120	6
IT Service and Project Management	80	4
Network Administration	80	4
Linux Administration	120	6
Security Fundamentals	40	2
Advanced Network Technologies	160	8
Cybersecurity	160	8
**IT Administrator Internship	240	12
<b>TOTAL</b>	<b>1240</b>	<b>62</b>

\*Number of study break weeks will depend on student start date.

\*\*Work terms/internships are scheduled for a minimum of 25 hours per week, but the total number of hours worked and the timing of hours scheduled are at the discretion of the employer/host to a maximum of 40 hours per week.

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## **COURSE DESCRIPTIONS**

### **Student Success Strategies**

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This course stresses the importance of developing non-technical skills to enhance personal, academic and career success. This includes understanding learning styles and honing practical study skills, such as memory, reading, note- and test-taking techniques. Personal exercises will focus on teamwork, setting goals and maintaining a positive attitude. Techniques for managing change, stress, and conflict will also be explored.

### **Career Management**

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In this module, you will create and refine your résumé and LinkedIn Profile. You will write cover letters and learn the value of customizing cover letters to specific job postings. You will have the opportunity to apply this knowledge as you conduct a job search and write a cover letter tailored to an ideal job post. Through research, you will create a list of top employers and target current industry opportunities. You will learn about current methods for applying to job postings using technology. You will also gain an understanding of the job interview process, typical interview questions and possible responses, and expectations of both the interviewer and interviewee. In addition, you will engage in practical application of the interview process through role-play. Topics such as negotiating salary, self-management, and on-the-job success for placements and post-graduate employment will be also covered.

### **PC Support**

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This course introduces you to the essential operating system skills required of a PC support technician, and covers the concepts tested on the CompTIA A+ certification. More specifically, you will learn how to configure, troubleshoot, and maintain both computer hardware and the Windows family of desktop operating systems. Additionally, you will examine the basic configuration of Linux, macOS, and mobile operating systems.

### **Windows client Administration**

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This course introduces the skills and knowledge necessary to install, configure and support Microsoft Windows client operating systems, and covers the concepts tested on the Microsoft 365 Certified: Endpoint Administrator Associate certification exam. More specifically, students learn how to deploy and upgrade Windows clients, as well as configure storage, access, devices, network connectivity and security. Additionally, students learn how to administer systems using PowerShell, as well as leverage online resources and AI tools to generate PowerShell scripts.

### **Windows Server and Active Directory Administration**

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This course provides you with an in-depth look at the different tasks necessary to administer, secure, and troubleshoot Windows Server 2019 systems. The focus is on server deployment and management, as well as data, storage, network service, virtualization, and container configuration. Additionally, you will cover Active Directory configuration and management.

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### **IT Service and Project Management**

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You will gain an understanding of business processes and communication, as well as time and project management skills that are vital for success in today's IT industry. Through the use of examples, demonstrations, and activities, you will examine the strategies and techniques that are commonly used within the IT industry, with a focus on ITIL processes and project management. Additionally, you will leverage AI tools to produce several industry grade deliverables for a complete IT project. This course also covers the concepts tested on the CompTIA Project+ certification.

### **Network Administration**

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In this course, you will examine the theory and concepts required to successfully administer and troubleshoot IP-based computer networks and network technologies. Moreover, you will cover the concepts tested on the CompTIA Network+ certification.

### **Linux Administration**

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Linux provides the foundation for many systems today, from embedded and mobile devices to supercomputers and the cloud. In this course, you will learn how to install, configure, and manage Linux systems and the network services that they run. Moreover, you will cover the concepts tested on the CompTIA Linux+ certification.

### **Security Fundamentals**

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This course covers the core concepts that provide for security within an enterprise environment. Focus will be placed on the common security tools and procedures that every IT professional must know when working with technology in an organization. Moreover, this course covers the concepts tested on the CompTIA Security+ certification.

### **Advanced Network Technologies**

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In this course students learn the configuration and support of Cisco routers, switches, and services. Additionally, students explore the design, configuration, and management of WLANs and other wireless technologies. Students will also leverage AI tools to generate an industry grade Wi-Fi infrastructure proposal for a campus location. This course covers the concepts tested on the Cisco Certified Network Associate (CCNA) and Certified Wireless Network Administrator (CWNA) certification exams.

### **Cybersecurity**

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This course covers the procedures used to design, implement, and audit security within an enterprise environment, as well as detect, respond to, and investigate security breaches. During the course, students perform detailed vulnerability assessments and penetration tests on target systems and networks, as well as leverage AI tools to generate an industry grade security assessment that summarizes the results and remediation actions. Moreover, this course covers the concepts tested on the CompTIA Cybersecurity Analyst+, Pentest+, and CASP certification exams.

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### **IT Administrator Internship**

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At the successful completion of the classroom hours of this program, you will be placed in a 240-hour internship at an outside organization. You will have the opportunity to apply your new and developed skills in a real-world environment. Hosts include small, medium, and large organizations that have an Information Technology department, or organizations that provide technology and technology services.

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