

YOUTH SKILLS CONNECTIONS PROGRAM



IoT and Modern Web Specialist

Qualifies for a Co-Op Credit

OUTLINE

This program provides a rare opportunity to learn from industry experts at no cost to you. The training exposes attendees to both hardware and software sides of the IoT (Internet of Things) and Modern Web development. This course has been developed in two units. Participants will complete the INTERNET OF THINGS module then continue on to the open source MODERN WEB DEVELOPMENT module. This training has been developed in partnership with IndustrialWebApps.com Inc. and Tertec.

Successful candidates will receive 10 weeks of training delivered in a combination of lectures from leading industry experts and hands-on labs for system and software development followed by an 8 week paid job placement* at a rate of \$20.00 per hour. This course includes a free Raspberry PI 3 for each attendee who completes both units as well as the apps that have been developed throughout the course. Laptops are provided for use throughout the program.

UNIT ONE

IoT TRAINING MODULE

The Internet of Things has three sections:

1. System Architecture and Design

Devised to deliver state of the art, practical experience based on a strong refresher of Systems Theory. Labs and Projects will give the attendees of this course hands-on proficiency on the subject matter, allowing them to design, create and troubleshoot systems of different complexity.

2. Advanced Troubleshooting and Debugging

Will provide the attendee valuable methodologies and strategies to solve problems that arise at various stages of creating and launching hardware and software systems. Labs will provide users first-hand experience in the Art and Science of Troubleshooting using modern tools and instrumentation. The success of the project is designed to enhance confidence in the participants and will enable them to troubleshoot systems of any type based on proven practices.

3. Deployment of Systems

The final stage of this module will enable the user to deploy, maintain and improve field systems in a structured manner using leading-edge tools and methods.

This module is an important foundation on which to base the Open Source Software as it provides essential knowledge, tools and methodologies for the efficient development of systems, giving participants a rare advantage in the job market.

UNIT TWO

MODERN WEB DEVELOPMENT

Using the latest Raspberry PI 3 microcomputer boards as its platform, this course allows the student hands-on, end-to-end design, implementation and deployment of projects with the latest cut of Open Source software such as NodeJs, Angular, React, etc. Allowing the student to take the Raspberry PI 3 with them after successfully completing the course will enable them to continue on with projects of their own as well as use it as a tool in future projects.

Web Technologies • Reactive Programing • Functional Programing • Declarative Programing • Real-time Systems

Cost: Tuition and Books \$0.00 ... Can you afford not to take this course?

**Paid placements will be dependent upon qualifications and application process.*

FOR MORE INFORMATION

Email SarniaYSC@iwa.mobi

or register for this course at www.sarniaysc.ca



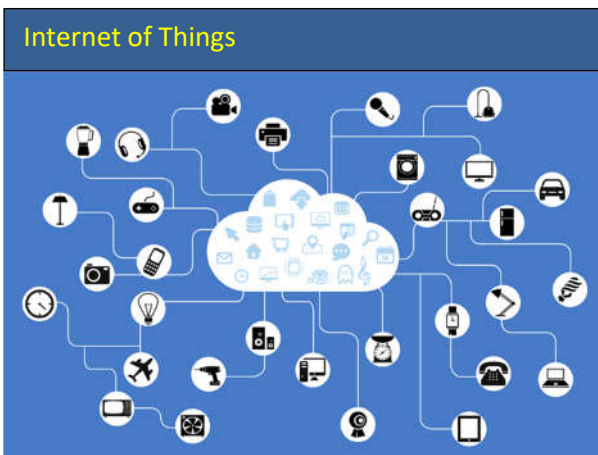
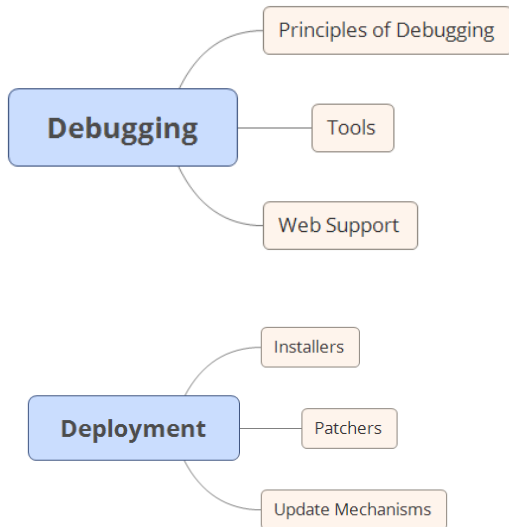
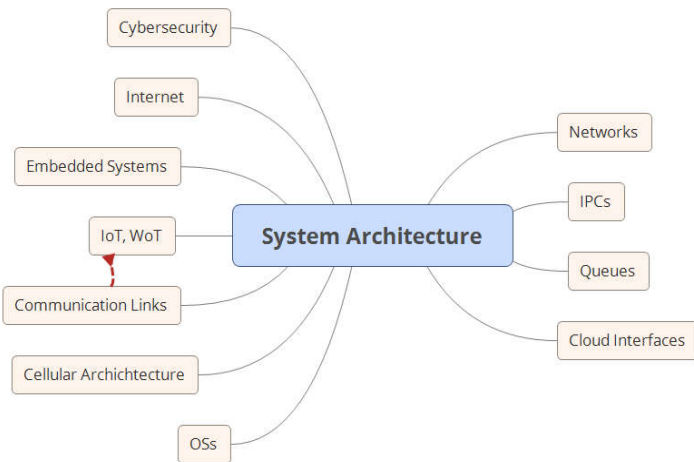
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IoT and Modern Web Specialist

What will be covered:



The Internet of Things (IoT), Networks & how the Internet works as the communication backbone of the IoT.

TCP, UDP and other Protocols and how to setup and debug them.

Sensors, Embedded Systems and other hardware platforms.

Cloud platforms such as Azure, Amazon, PubSub etc.

Operating Systems, Queues, and Inter-Process Communication.

Cyber security for secure systems.

JavaScript (ES6), Python and C# with NodeJs among others.

HMI and M2M communication.

Everything needed to design, build and deploy state of the art IoT hardware and software systems, solutions and applications.

Debugging is both an Art and a Science.

It is fundamental to all walks of life including hardware, software and system design. Covered in this course are:

Structured debugging methods, What-ifs, W5H, HIPO, case studies and checklists essential to core debugging.

Tools such as Wireshark, Fiddler, TCP-Tools, Firebug etc. are used in real-life lab projects for maximum benefit.

Deployment and Maintenance of systems are as important as design and implementation. Bugzilla, InstallForge, WIX, EPM, Patch and other Open Source software are covered as well as the optimal use of each.

Web Specialist section covers Front-End as well as Back-End systems. HTML5, CSS3, JS (ES6), TypeScript, Bootstrap, JQuery, NodeJs, Meteor, React, Redux, MongoDB, Express, WebServices among others, allows for the creation and integration of data with Dashboards, Data Mining, Big Data and AI applications.

This course teaches state of the art Web Design and the creation and debugging of Web Applications and Web Pages. These form the heart of the Human Interface to the IoT and other Internet Applications.

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