Highway 2 Code

Want to be an expert of embedded Linux-programming and IoT?

Kajaani Universty of Applied Sciences offer 40 ECTS in embedded Linux-programming and industrial IoT solutions. Highway 2 Code training is university level, free of charge and 6 months in duration.

What
Basic studies
• Linux OS	4 ECTS
• C-programming	3 ECTS
• DevOps Basics	3 ECTS

Specialization studies
• Embedded Linux Programming	5 ECTS
• Linux Kernel & Device Driver Programming	5 ECTS
• Real Time Industrial IoT project	10 ECTS

Internship (6 weeks)   **10 ECTS**

To who
The applicant is required to have at least minor programming knowledge and also the willingness and enthusiasm to develop his or her own skills. Logical thinking abilities and skills of problem solving are appreciated.

Why
After the training the student is ready for jobs in software business, and companies get the software experts they need.

Schedule
Training starts at September 2019 and the duration is 6 months.

Execution of training
Training is provided in Finnish and in English. Implementation is mostly online studies and can be conducted alongside work. We are primarily looking for people who complete the full training module.

Applying and additional information
Applying for the training takes place 15.4. - 2.6.2019 online: www.h2c.fi

More information about training:
www.h2c.fi
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H2C training is financed by Ministry of Education and Culture. In addition to KAMK, H2C training is given by Universities of Applied Sciences in Vaasa (VAMK), Turku (Turku AMK), Jyväskylä (JAMK), Ylivieska (Centria) and Oulu (OAMK).

Tentative schedule

	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2019	Feb 2019

1st implementation

Basic studies

Specialization studies

Internship

2nd implimentation begins at the end of 2019

Basic studies:

Linux OS, 4 ECTS
Linux is the most used operating system worldwide. In this course you get to know the basics of Linux operating system and related terminology. You also install your own Linux and learn how to use it.

C-programming, 3 ECTS
This course introduces you to basics of C-language. After the course you will master the key concepts of programming and you will be able to design and implement basic console-based applications using C.

DevOps Basics, 3 ECTS
This course is an introduction to distributed software development using Agile and DevOps practices. Students become familiar with the different phases of Agile distributed software development process and how to combine development (Dev) and operations (Ops).

Specialization studies:

Embedded Linux Programming, 5 ECTS
The content of the course is focused on programming in the Linux environment using C. Special emphasis is on process processing, socket programming, system calls, process scheduling, threading and inter-process communication. You will learn to design and implement efficient embedded applications using C programming language.

Linux Kernel & Device Driver Programming, 5 ECTS
The course introduces the basics of the device driver programming and the specific features of compiling and deploying a Loadable Kernel Module (LKM). You will also learn to configure, compile and link kernel to an embedded device.

Real Time Industrial IoT project, 10 ECTS
In this course you will learn how to combine sensor technology, real-time control logic implemented with a higher level programming language (C/C++ and/or Python) and basic principles of AI algorithms. In this project you will execute a real-time monitoring system in an industrial context.

Internship (6 weeks), 10 ECTS

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