

New Foundation for 2-Year Internet Technologies College Degree Programs

Program Description

NHTI, Concord's Community College was founded as a technical institute with 3 engineering technology programs in 1965. Today they offer over 90 academic programs on their New Hampshire campus in the northeastern US, with technology education remaining a core focus area. NHTI's Information Technology department has been a Cisco Networking Academy since 1999. There are two Information Technology post-secondary (Associates in Science, A.S.) degree programs: Networking and Software Development, which leverage the NetAcad CCNA R&S and CCNA Security curricula.

The IT program at NHTI has experienced an exciting 32% student growth between the 2015-16 and 2016-17 academic years—reaching 525 NetAcad Class Participants last year. Three of the four instructors are graduates of the program and have played a significant part in promoting their degree and certificate programs with both prospective students and employers. They have been seeking ways to keep their program relevant to potential employers and it's working, with a heavy emphasis on real-world experiences and soft skills development through required internships, project-based learning approach and a communications-oriented capstone course. The associate IT degree programs at NHTI are articulated to three different 4-year degree college programs in the same region. Most of the IT students are aged 18-25 when entering the program, and come primarily from New Hampshire.

Networking Academy Engagement

During the 2016-17 academic year, the NHTI instructors participated in the limited availability of IoT Fundamentals with 12 students. They also tested the new advanced Linux offering during the same academic year, providing useful feedback to both course developers. Based on the results of these testing opportunities, the NHTI faculty determined that all students in both the IT Networking and Software Development degree programs will take Connecting Things and the networking students will take Linux I as part of their required coursework with an option to take Linux II as an elective that will count towards their degree completion. To accommodate this requirement, 7 class sections of Connecting Things will be offered during the Fall 2017 semester (starting September 2017).

IoT Fundamentals Best Practice

SUMMARY

Target Audience: College students age 18-25+

Job Families: Entry-level administrator, engineer, programmer, technical support, analyst, continue education to obtain a 4-year technical or engineering degree

Institution:
NHTI Concord Community College

Location: New Hampshire, USA

Program:
Information Technology Degree Programs with networking and software development specializations

Program Completion:
2-year post-secondary college degree

NetAcad courses in Program:

- Connecting Things
- Linux I / II
- CCNA Routing & Switching (4 courses)
- CCNA Security

Impact:

- All first-year students participate in Connecting Things as part of their educational foundation
- 125 first-year students per year.

Student Quote:

"There is a lot of hype about the Internet of Things (IoT), it's a buzz word that I keep hearing constantly but never really knew what it was. Going through this course has shown me how IoT is the next evolution in IT, and the large-scale adoption of it happening across the world. It really is changing the way the live, work, play, and learn and it's extremely exciting to see this new era of technology emerging before our eyes."

-Eric Osgood

“Students frequently arrive at the college knowing they like computers but unsure if they should pursue our networking degree or our software development degree. To help them decide both degrees had a common first semester where all students took the Introduction to Networks class and a database design and management class. After piloting the IoT Fundamentals: Connecting Things course we made the decision to replace the two previously mentioned courses with IoT Fundamentals. With its incorporation of networking, Linux, programming and electronics, the IoT Fundamentals course not only gets the students excited about their chosen field but also helps them identify the area that they want to specialize in.” Aaron Conn, IT Department Head.

The Northeast ASC/ITC (U.S.) offered an IoT Fundamentals: Connecting Things instructor training course at NHTI in July 2017 to 10 new instructors. Chad Johnson, the NHTI instructor who taught the Connecting Things limited availability version, also participated and shared many best practices based on his department’s experience during the 3 days of instruction. The Instructor Training course focused on completing all of the Connecting Things hands-on labs and concluded with a mini-hackathon.

Student Pathway Development

IST 103C Programming with Raspberry Pi 2-2-3: This course will start with an introduction to the Internet of Things, exploring the three basic insights of the IoT: Why do we want to connect everything? What do we want to connect? How do we connect everything? The course will then move towards the process of turning physical events into measurable quantities.

- NetAcad course: IoT Fundamentals: Connecting Things
- Additions to published version: introduce Java script and Linux to help prepare for A+ and Introduction to Linux courses

Related Links:

[NHTI Concord Community College website](#)

[Information Technology – Networking Degree webpage](#)

[Information Technology – Software Development Degree webpage](#)

[Northeast Academy Support and Training Center](#)

