

Susan Hughes

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SUMMARY

Professor and EET Program Coordinator with experience instructing in both the classroom and laboratory instruction. Specific expertise in C++ programming, digital design, DC circuits, and digital electronics. Demonstrated ability to adapt coursework from in-classroom to online. Effective communicator, guiding students through problem solving and debugging techniques in both classroom and online environments.

EDUCATION

Master of Science, Electrical Engineering
University of New Hampshire

Durham, NH 12/1994

Bachelor of Science, Electrical Engineering
University of New Hampshire

Durham, NH 5/1992

SKILLS

Design Experience

- Digital Design - C/C++ Programming
- FPGA Design - Schematic Capture
- VHDL - Arduino Programming

Leadership Experience

- Creating Schedules - Financial Management
- Fundraising - Proposals
- Teaching - Performance Evaluation

ACADEMIC EXPERIENCE

Nashua Community College

8/21 - present

Professor and Program Coordinator, Electronic Engineering Technology and Computer Engineering Technology

Responsibilities include:

- EET/CET Program Coordinator
 - Instructor course/lab assignments
 - Hiring/evaluating adjunct professors as needed
 - Lead for EET ABET accreditation activities
 - Working with industry partners to establish pathways to employment

- Lecture and laboratory instruction for the following courses:
 - Digital Circuits I - Advanced Digital Electronics
 - Microcontrollers - Introduction to Programming Using C++
 - EET Capstone

New Hampshire Technical Institute
Adjunct Professor, Electronic Engineering Technology

9/13 – 6/21

Responsibilities include:

- Lecture and laboratory instruction for Introduction to Programming with C++
- Laboratory instruction for the following courses:
 - Electric Circuits I
 - Advanced Digital Electronics
 - Digital Fundamentals
 - Integrated Circuits and Interfacing
- Lecturing on lab procedure, monitoring implementation of lab procedure, and answering questions when necessary to ensure students understand and execute the lab procedure properly
- For advanced classes, responsible for writing lab procedures, including a series of lectures and labs on FPGA design using schematic capture and VHDL in Intel/Altera Quartus Prime Lite design environment
- Grading lab reports, entering grades, and communicating with students as needed to ensure successful implementation of the lab procedures
- Collection of data and analysis of outcomes as required to support ABET accreditation of EET/CPET programs

New Hampshire Technical Institute
Lab Technician, Electronic Engineering Technology

5/15 - present

Responsibilities include:

- Calibrating and maintaining laboratory equipment
- Selecting and procuring parts and equipment in support of EET/CPET/AGGP programs
- Mentoring students as needed with problem solving and/or debugging outside of the classroom environment
- Exploring new technologies for advanced digital electronics course applications
- Assisting in collection and organization of data for ABET accreditation of EET/CPET programs

NON-ACADEMIC EXPERIENCE

Lucent Technologies

Technical Manager, ASIC/FPGA Design

7/00 – 11/02

- Responsibilities included staff assignments, performance review and salary administration, coordination between groups on overall staff plan and direction of ASIC/FPGA community
- Coordinating ASIC and FPGA proposal development, including schedule, cost analysis, and architecture
- Interfacing with external vendors for device manufacture and production, including negotiating schedule, process interval, model quantities, risk production device cost and liability, and model production device cost
- Supporting complete verification and validation of ASIC and FPGA devices, coordinating with hardware and software teams to ensure full test coverage

Lucent Technologies

ASIC Design

2/99-6/00

- Block designer and lead verifier for 3 million gate Synchronous Optical Network (SONET) ASIC. Responsibilities included vendor RFQ, I/O specifications, design and verification of components, integration of transmission interfaces, device-level verification, development of device test plan, formulation of verification strategy for device team, and coordination of the day-to-day activities of a large group of verifiers.

Lucent Technologies

Circuit Design

1/95-1/99

- Overall responsibility for 155 Mb/s switch design, including architecture and interface documentation, schematic capture, layout decisions based on board materials, board stack-up, component placement, signal routing, as well as reviewing completed layout for any timing issues, unit test of circuit card functionality, comprehensive unit test of all ASICs on the circuit card, answering any questions related to circuit card functionality as it pertained to hardware and software applications.