Kurtis Bauer

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Skills

Languages
C#
C++
Python
Maple
Bash
HTML
CSS

DevOps Tools:
Docker
AWS

Simulators/CAD:
SolidWorks
AutoCAD
Solid Edge

Tools:
Microsoft Office
(Excel, Word, PowerPoint)
Blackboard LMS
Sakai LMS
Cura (3D Printing)
Arduino
OriginPro

Passions
Renewable energy and energy storage
Automated systems
Sustainable living
Educating
Food security

Education

M.Sc. Physics (Condensed Matter & Materials Science)
Brock University – June 2020

B.Sc. Physics (Honours)
Brock University – June 2017

Work Experience

Partial Load Professor (Chemistry and Electronics) – Loyalist College   *Sept 2020 – present*

- Produced new course material including assignments and final exams.
- Adapted preexisting course material to digital formats and made modifications necessary to allow for online delivery of lecture materials and labs.
- Worked in concert with colleagues to coordinate uniform delivery of courses across multiple class sections, including weekly meetings and approval requests to department heads.

Course Coordinator (Astronomy) – Brock University   *Sept 2020 – Dec 2020*

- Assisted in the development and coordinated the delivery of course material for a 2,000 student course
- Handled the logistical challenge of delivering online tests in a timely manner without exceeding the capacity of the school network to simultaneously generate and present online tests to students during a period of Ontario's first full semester of exclusively remote learning.

Research Assistant (Physics) – Brock University   *Sept 2017 – Dec 2019*

- Performed sample preparation, producing single crystal metal oxide samples using high temperature gas transport growth methods such as chemical vapour transport.
- Analysed samples to determine their physical and electrical properties including cryogenic measurements down to 3K and writing scripts in python and modifying code in C++ to assist in the collection and analysis of measurement data
- Presented regular updates to supervisors and committee members and participated in monthly updates within my research group, including regular presentations on the state of the lab and my research.

Computer Assisted Design Technician (CAD) – Abatement Technologies   *Jan 2013 – Sept 2014*

- Used SolidWorks CAD software to model a range of products, including HEPA filtration and ventilation equipment.
- Prepared 3D models for manufacturing, including unpacking, flattening, establishing order of operations, and producing technical drawings for machine operators.

Personal Projects

Skoolie   *Summer 2021*

- Converted, from scratch, a school bus into an Ontario Ministry of Transport approved and titled RV
- Designed and installed a plumbing and wastewater system with sink, shower, and toilet, and water heater which was run off of the waste heat from the engine coolant system
- Built a dual 24VDC/120VAC electrical system with a 7kWh battery fabricated from raw $LiFePO_4$ cells, with solar charging system and alternator charging using a CC buck booster to utilize the onboard 12V system