

Elsa Birch

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Education

University of Colorado

Boulder, Colorado

Chemical Engineering, Applied Math Minor

Bachelor of Science

Suma Cum Laude

Experience

Spoetzl Brewery

Shiner, Texas

Senior Design Project, Industrial Liaison Jaime Jurado

- Prepared Proposal and Design Report
- Accounting of greenhouse gas emissions according to the GHG Protocol Standards.
- Completed design, simulation, and economic assessment for emissions reduction projects including: Anaerobic wastewater treatment with biogas capture, Solar PV and Solar thermal system installations, and Boiler upgrades.

1/08-5/08

Nuckolls Research Group

Columbia University, New York

NSF REU Researcher, Supervisor Adam Whalley

- Synthesis and purification of organic compounds, including air sensitive.
- Structure verification using NMR and mass spec.

6/07-8/07

Hrenya Research Group

University of Colorado, Boulder

Undergraduate Researcher, Supervisor Gustavo Joseph

- Wrote Matlab code to track particles in video of collisions.

8/06-12/06

TW Environmental

Portland, Oregon

Summer Intern, Supervisor Martha Moore

- Time entry database creation using Microsoft Access.
- Long and short term noise data collection fieldwork and travel.
- Noise modeling using FHWA Traffic Noise Model software.
- Creation of compliance checklists from air quality permits.
- Design and construction of specialized equipment cases.

6/06-8/06

Software

- Microsoft Office, including Visio and Access database setup.
- MATLAB programming experience.
- Process simulation using HYSYS.

Leadership and Activities

- Engineering Projects Team Leader. Coordinated 5 team members in semester long design process.
- Involved in Residence Hall student government and Women in Engineering Program volunteer.
- Coordinated events, led meetings and interacted with administration and outside professional organizations as Student Body President of 1,300 student high school.
- Life drawing and glass casting studio work.