Carey Dougherty-Allen

Manufacturing Engineer | Sales Engineer | Process Engineer | Control Engineer

Ridley Park, PA - Email me on Indeed: indeed.com/r/Carey-Dougherty-Allen/5e6cc10f538e862b

Entry-level Process Engineer
~ Expertise performing and troubleshooting overall operations, teams, assets, and processes associated with chemical engineering controls ~

• Track record of driving and optimizing process functionality, control, programming, and associated equipment.
• Manage cross-functional teams in safety and reliability of academic goals while identifying opportunities for improvement.
• Experience working with filtration, fluidized bed, pump systems, polymer extrusions, and more.
• Superb team leadership, analytical, and communication skills. Reputed for credibility, exceptional work ethic, and sharp attention to detail. Thrive in dynamic settings.
• Responsible for troubleshooting issues and implementing corrective actions to address the problem.
• Experience working with Microsoft Office Suite, Maple 16, Minitab 16, VBA, Aspen, and UniSim/HYSYS.
Willing to relocate to: Philadelphia, PA - King of Prussia, PA
Authorized to work in the US for any employer

WORK EXPERIENCE

Treasurer/Bookkeeper

University of Florida - Gainesville, FL - August 2015 to Present

Maintain all organizational funds, books of accounts, and records. Prepare the annual budget and disperse funds in accordance with it. Prepare financial statements and complete Federal tax returns. Currently training replacement.
• Manage a $150K annual budget.
• Rewrote operating manuals for the Executive Board and Fundraising Chairperson positions to streamline operations and improve communications.
• Implemented a new financial software platform.
• Negotiated a $10K refund from the IRS for tax penalties accrued and paid in years prior to current tenure.

Undergraduate Student

University of Florida - Gainesville, FL - August 2012 to May 2016

Currently completing a Bachelor's of Science in Chemical Engineering with coursework, including Safety and Experimental Evaluation, Material and Energy Balances, Computer Model Formulation, Elementary Transport Phenoma, Fluid and Solid Operations, Energy Transfer Operation, Process Thermodynamics, Phase and Chemical Equilibria, Separation and Mass Transfer Operations, Kinetics & Reactor Design, Materials of Chemical Engineering, Process Economics, and Process Control Theory.
Gained hands-on experience on pilot-scale equipment in a pilot-scale laboratory representing unit operations often found in the chemical process and related industries.
Notable Academic Projects:
• Senior Design Project - capstone project including the design of 2 independent, continuous processes for the production of Di-tert-butyl peroxide (DTBP).
◦ Outcomes included systematic selection of reaction chemistry, modelling of the entire process, sizing of equipment, and preliminary costing.

• Cost Benefit Analysis on Distillation Column Revamps - researched and authored an informative paper and presentation on the cost benefit to revamping columns used in chemical separation processes for humidification, stripping, absorption, and distillation.
◦ Benefits of revamping older columns - improve separations, increase capacity, and reduce energy consumption.

Notable Laboratory Projects - Unit Ops: Fluid and Energy Transfer Operations/Separatons and Mass Transfer
• Filtration - performed experiments using a small batch filter and used the experimental data to predict operating conditions for a continuous rotary drum filter and verified these predictions through experiments on the drum filter.
• Fluid Flow in Pipes - investigated fluid flow in a pipe network and explored several methods of measurement of the fluid flow rate, including rotameter, orifice, and venture meter.
• Fluidized Bed - investigated the effects of process parameters on minimum fluidization velocity, understood the role of particle shape on fluid flow and fluidization characteristics, and used the Ergun equation to predict behavior.
• Heat Exchanger - evaluated the performance of 3 different types of heat exchangers (tubular, plate, and shell & tube).
• Thin Film Evaporator - systematic investigation of the effects of various parameters on the efficiency of separation using feed flow rate and pressure in the TFE chamber as controls.
• Micelle Formation -- determined the critical micelles concentration (CMC) for a variety of sodium dodecyl sulfate (SDS) concentrations by measuring both absorbance and conductivity, investigated the dependence of CMC on temperature.
• Polymer Extrusion - determined the material flow rates of viscoelastic fluids at different screw speeds, determined the dependence of extruded dimensions on process variables, and used transport equations to predict extruded dimensions.
• Pump System - gained understanding of pump performance curves, sizing, configurations, and process control.
• Spin Coating - performed spin-coating of a silicon wafer by viscous fluids and investigated the effects of rotation speed, spin-coating time, and the viscosity of the thickness of the produced thin film.
• Batch Distillation - determined overall column and local plate efficiencies and analyzed the performance of key system parameters when the column was run at different reflux ratios.
• Liquid-Liquid Extraction - performed equipment calibration and titrations to determine solute compositions in various streams, performed analysis to determine how various packing materials effect mass transfer coefficient.
• Gas Absorption/Cooling Tower - gained experience fully characterizing the behavior of an absorption column.
• Semiconductor Manufacturing - gained understanding of oxide growth, photolithography, and wet and dry etching.

Outreach Coordinator
University of Florida - Gainesville, FL - January 2014 to May 2014

Provided outreach services to undergraduate science students to dispel misconceptions about the Chemical Engineering Program, answer questions, and improve student retention within the Program.

Peer Advisor
University of Florida - Gainesville, FL - August 2013 to January 2014

Guided students on resources available to them through the University of Florida and the Chemical Engineering Program focusing on non-traditional and special needs students. Provided 1-on-1 guidance and help.

Data Analyst
Heath Consultants Inc - May 2007 to May 2010

Owner/Baker
From Carey's Table, LLC - Naples, FL - September 2005 to May 2007

EDUCATION

Bachelor of Science in Chemical Engineering
University of Florida - Gainesville, FL
May 2016

Associate of Arts in Engineering
Santa Fe College - Gainesville, FL
August 2012

SKILLS

Site Management, Process Safety, Project Management, Training, Process Optimization, Team Leadership, Troubleshooting, Unit Operations, Laboratory Reporting, Inspection, Process Controls, Microsoft Office

LINKS

http://www.linkedin.com/in/careydoughertyallen

CERTIFICATIONS

Process Safety 101 (SAChE)

Risk Assessment (SAChE)

Inherently Safer Design (SAChE)

Dust Explosion Control (SAChE)

Safety in the Chemical Process Industries (SAChE)

Project Management Professional (PMP)
In Progress

GROUPS

Project Management Institute (PMI)

American Institute of Chemical Engineers (AIChE)

Society of Hispanic Professional Engineers (SHPE)

ADDITIONAL INFORMATION

Core Competencies Include:
Site Management • Process Safety • Project Management • Training • Process Optimization
Team Leadership • Troubleshooting • Unit Operations • Laboratory Reporting • Inspection • Process Controls