

# Engineering Co-Op Program



East West



# East West Manufacturing

## WHO ARE WE?

East West is an Atlanta-based \$500 million firm providing design, manufacturing, and distribution services to customers ranging from multi-billion dollar corporations to inventors seeking initial entry into the market. In-house design services, production management, supply chain operations, and quality control teams allow us to produce a broad range of superior products and provide competitive cost advantages to our customers. Our 20+ year history of Atlanta-based management and design teams combined with our manufacturing facilities in 7 countries and 5 US States allows us to reduce the risks and complexities of global manufacturing for our customers.

## INTERESTED IN LEARNING MORE?

Visit [WWW.EWMFG.COM](http://WWW.EWMFG.COM) for more information.

## WHAT DO WE DO?

- » ALUMINUM CASTING AND EXTRUSIONS
- » BLOW AND ROTO-MOLDING
- » COMPRESSION MOLDING
- » ELECTRIC MOTOR MANUFACTURING
- » HUMAN MACHINE INTERFACE
- » PROTOTYPING
- » INJECTION MOLDING AND TOOL DESIGN
- » NEW PRODUCT INTRODUCTION
- » PRINTED CIRCUIT BOARDS
- » PRINTED ELECTRONICS
- » SHEET METAL FABRICATION

## INDURSTRIES WE SERVE:



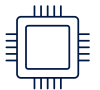
**MEDICAL + WELLNESS**



**ROBOTICS + AUTOMATION**



**CONNECTED DEVICES**



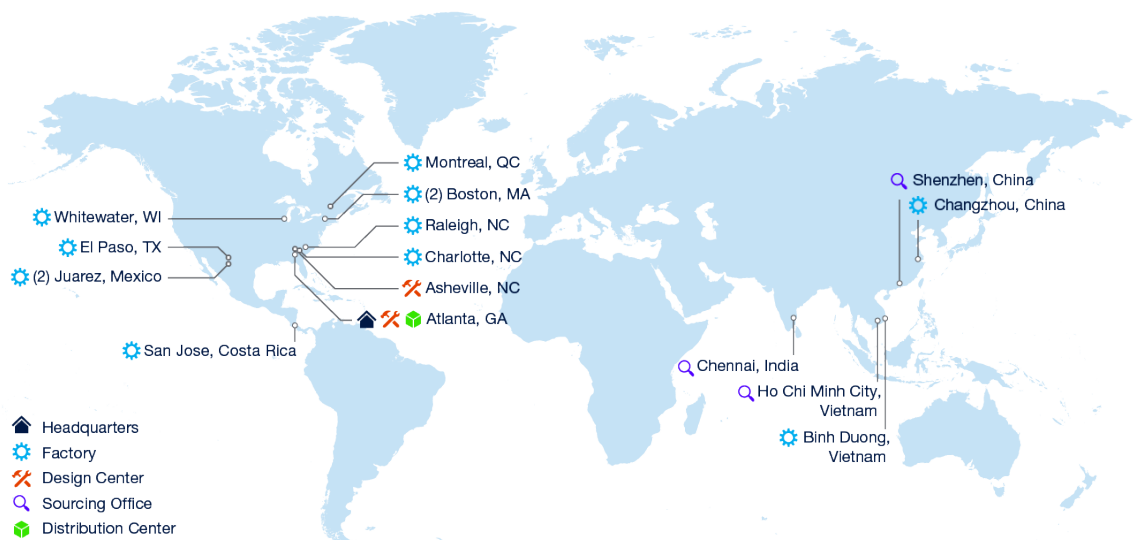
**+ MORE!**

**12**  
Manufacturing  
Facilities

**7**  
Countries

**3k**  
Employees  
Worldwide

**500k**  
In Revenue



# Bring products to life, not coffee to your boss.

Our Co-Ops are part of our family. At East West, you'll gain **UNPARALLELED EXPERIENCE** in all the right places and receive **ON-JOB EDUCATION** from a broad field of subject matter experts.

## THE CULTURE OF EAST WEST

East West team members, including Co-Ops, have the opportunity to drive company wide change utilizing industry leading in-house resources for product design, manufacturing, quality control, and distribution.

East West is a fast growing, Atlanta-based global company with 3,000+ employees worldwide, combining **SMALL COMPANY CULTURE WITH LARGE COMPANY RESOURCES**.

## ARE YOU...

Passionate?  
High Performing?  
Collaborative?  
Creative?  
Innovative?  
An Enthusiastic Learner?

**EAST WEST HAS A PLACE FOR YOU!**

# Developing the next generation.

## PROSPECTIVE CO-OP PROFILE

East West seeks **SELF-MOTIVATED SOPHOMORE – JUNIOR LEVEL STUDENTS**. We are drawn to students with passion for their studies and hobbies especially those with **LEADERSHIP EXPERIENCE** in student or community organizations such as:

- STUDENT GOVERNMENT
- ROTC
- FORMULA SAE
- HIGH SCHOOL ROBOTICS
- ASME
- SWE

We are a **SOLIDWORKS AND ALTIUM** based design organization but we welcome students demonstrating design knowledge developed in other modeling software packages such as Creo, Inventor or Fusion 360.

**WE WELCOME & HONOR MILITARY MEMBERS.**

Sound like you?  
Apply online today!



# Your Co-Op Experience

## Mechanical Design

Initial customer introduction, identifying potential manufacturing techniques, concept refinement

**DESIGN REVIEW**, brainstorming skills and practices

**SOLIDWORKS MODELING** techniques for

- Master modeling
- Surface modeling
- Sheet metal
- Assembly design

**MECHANICAL COMPONENT DESIGN** for

- Injection molding
- Aluminum casting
- Compression molding
- Design of sheet metal components
- Blow molding
- Design for additive fabrication (3D printing, etc)

Opportunity to hone skills in **SOLIDWORKS FEA**

**RAPID PROTOTYPING**

- Use and maintenance of In-house additive manufacturing machines (SLA and FDM)
- Urethane vacuum-casting
- Outsourcing of multiple types of prototypes to local and international partners

**DESIGN VALIDATION**

- Design of Experiments (DOE) for validating mechanical designs

**CUSTOMER INTERFACE SKILLS**, presenting original designs to customer

Introduction to design validation & field failure prediction and prevention using DMFEA

## Electrical Design

**ELECTRICAL DESIGN**

- Circuit design
- Reverse engineering of existing designs
- PCB layout techniques
- Matching/Planning mechanical and electrical layout
- PLC programming for concept boards

**PROTOTYPE ASSEMBLY**

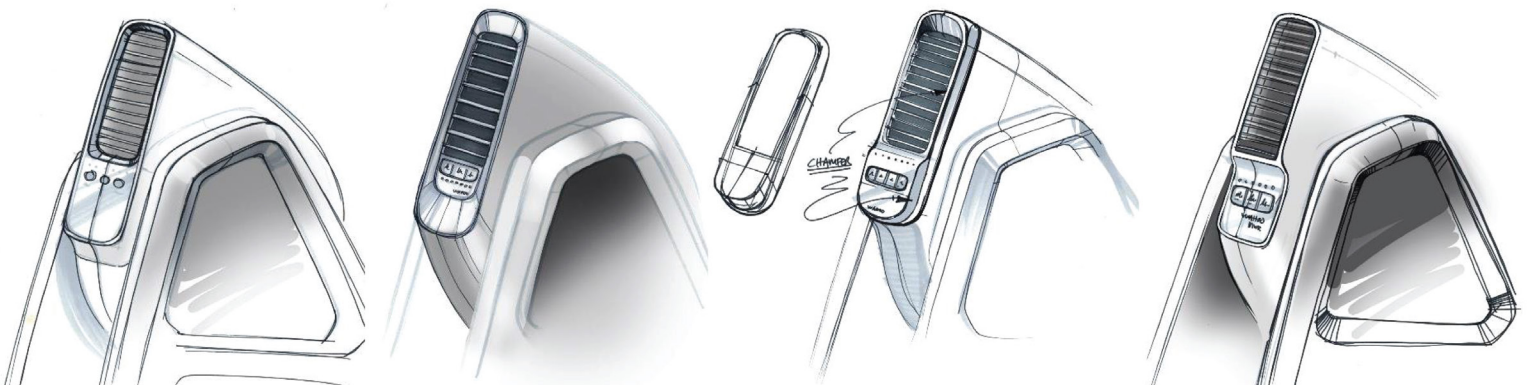
- Electrical Assembly (PCB and assembly into enclosure)
- Hand Soldering techniques
- Component Placement
- Surface-mount reflow soldering
- Wiring looms, cabling, and crimping

**TESTING AND QUALIFICATION**

- Electrical bench testing
- Environmental testing
- Setup of batch testing
- Life testing

**PRODUCT SUPPORT**

- Helping find alternative parts
- Trouble shooting field failure returns
- Lifetime and destructive testing of electrical assemblies



## NPI (New Product Introduction) & Factory Interface

Customer facing review and improvement of products either in production or with potential to enter production in East West's multi-national business units

Conduct Design for Manufacture (**DFM**) and Assembly (**DFA**) evaluations

Creation of **PRODUCT DOCUMENTATION**

- Reviewing, editing, and publishing high quality 2D drawings for guiding manufacture of products
- Learning appropriate dimensioning and tolerancing practices to ensure optimal manufacturability

Participation in **MANUFACTURING VALIDATION PROCESSES** including

- Sample reviews
- Part inspections with
  - Basic measurement equipment
  - VMM
  - Metrology (outsourced)

Sample feature reviews, measurements, and assembly/fitment checks

Formal, instructor-led **TRAINING IN MANUFACTURING PROCESSES** that have real-world relevance

- Injection molding
- Metal casting
- Sheet metal progressive stamping
- Silicone compression molding
- Sheet product converting
- Packaging design

Experience with readying products for **PRODUCTION LAUNCH**

- PPAP (description: documentation and customer approval of production ready product)
- Review of inspection reports
- Material sourcing and logistics

**HONING COMMUNICATION SKILLS** for productive relationships with multinational production facilities

- Familiarization with concepts and challenges of a global supply chain
- Developing and honing presentation skills which are imperative in development of a successful engineering career

## And More!

**ELECTRIC MOTOR DESIGN AND FABRICATION**

- Assembly of prototype and test units
- Performance and Life Testing
- Troubleshooting and general understanding of design and manufacturing

Exposure to **FUNDAMENTALS OF PROJECT MANAGEMENT**

- Task organization
- Scheduling tools and skills
- Communication



# Semester-by-Semester Objectives

## SEMESTER ONE

### GENERAL EXPOSURE, LEARNING PROCESSES AND TOOLS OF THE TRADE

Exposure through task-centered learning

Basic CAD

- Introduction to DFM concepts

Basic NPI (Production Engineering)

- Drawing evaluation, editing, and release
- Proper techniques for successful customer communication

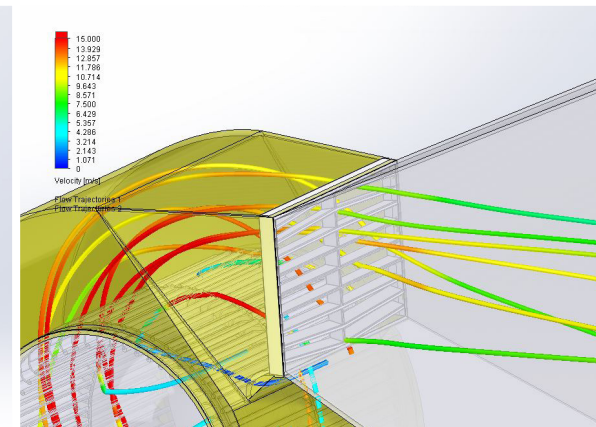
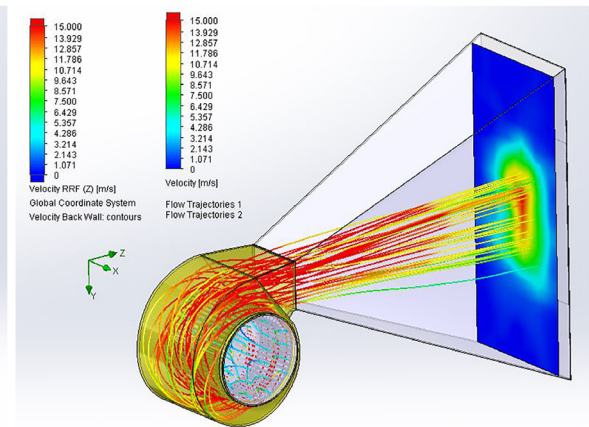
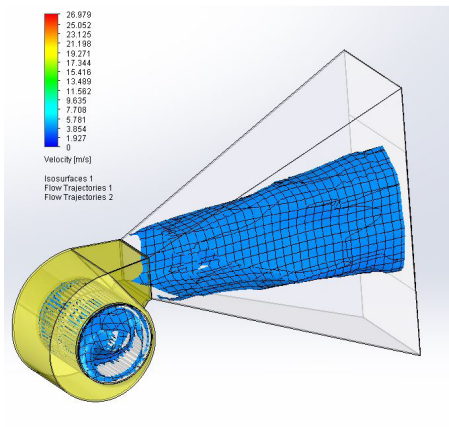
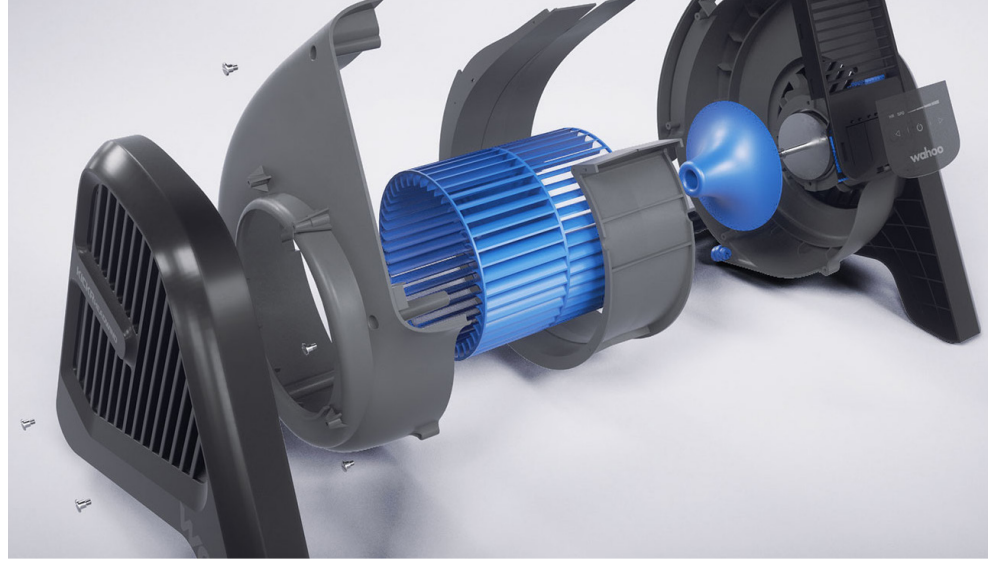
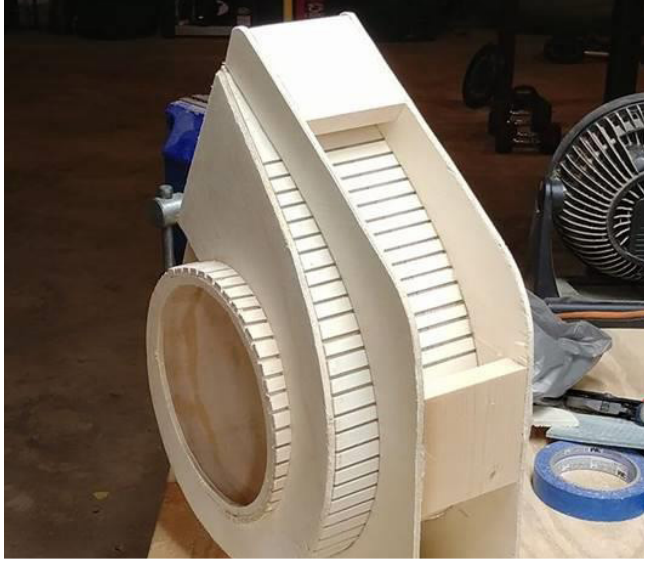
### EXAMPLE END-OF-SEMESTER GOALS

- Build of internal test/experimental fixture
- Learn how East West operates
- Reading content: How to be a better business writer

### TASKS

- Correct red-line drawings
- Become familiar with East West's Enterprise Product Data Management (EPDM) software
- Update simple SolidWorks parts (depending on SolidWorks skills)
- Generate original drawings for simple parts (depending on Solidworks skills)
- Develop full working knowledge of 3D printer and Urethane casting,
- Assist with maintenance and tuning of 3D printers
- Build / clean 3D printed components and assemblies
- Assembly of simple experimental setups
- Assemble simple electrical componentry
- Measure parts with calipers, micrometer, VMM and report results
- Gain understanding of application of significant digits
- Organization and clean up of lab





## SEMESTER TWO

### INTRODUCTION TO LONG TERM PROJECTS WITH WEEKLY DELIVERABLES

Increased project responsibilities

Ability to review projects posted on Teams Co-Op page & self start into research & completion of tasks

#### GOALS

- Learn organization of information for effective engineering communication
- Take on simple DOE for experimental setups Mechanical and Electrical
- Complete engineering tasks where hours spent can be reported and billed to clients
- Initial entry into direct customer fronting presentations

## SEMESTER THREE

- Initial introduction to project ownership
- Work on projects driven by East West engineers with visibility to customer requirements
- Get assigned ownership on-going projects with internal deadlines

## SEMESTER FOUR

### (OPTIONAL SEMESTER)

- Ownership of customer facing project(s) or customer facing role(s) on larger project
- Receive, work, and report on customer driven deadlines
- Work on projects driven by customer interface with guidance from EW engineers





Excited for your future at East West?  
We are too—Contact us to learn  
more or apply online today!

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✉ **Human Resources**  
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