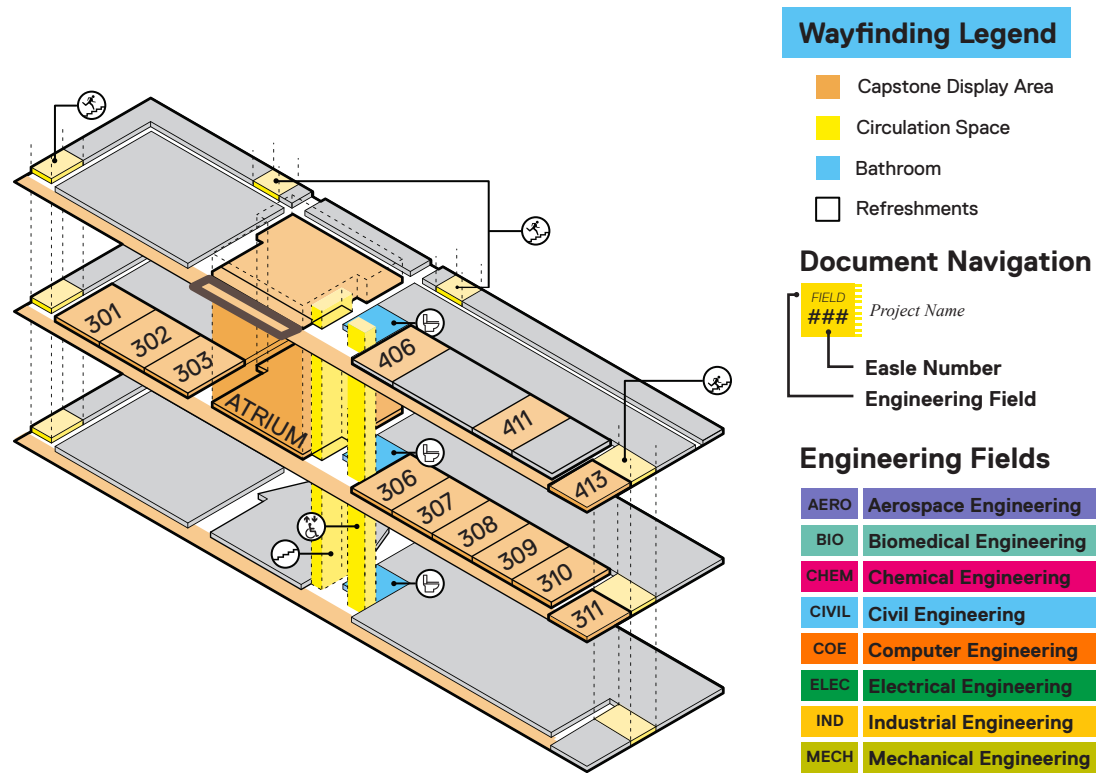




# Ryerson Engineering Day

**Location:**  
George Vari Engineering Building  
**Date:**  
April 26, 2019



## Project Finder: LABS

### ROOM 301

COE 005	Developing Coding Curriculum for LEGO MINDSTORMS EV3	001	Image Encryption
BIO 004	Gesture Recognition for ASL	007	Dermatological Tool For Automatically Identifying Skin Cancer
ELE 003	Connecting To Internet Of Things (IoT) Devices Using Domain Name System (DNS)	006	Visual Odometry for Autonomous Driving

### ROOM 302

COE 003	Augmented Image Experience	COE 007	Cloud Service for Smart Buildings
BIO 004	Overall Survival Prediction Tool for Metastatic Castration-Resistant Prostate Cancer (mCRPC) Patients	BIO 008	Automation of a Continuous Flow Bioreactor for Cartilage Tissue Engineering
BIO 006	3D Printed Prosthetic Hand		

### ROOM 303

COE 002	Smart City Application	COE 003	Developing Coding Curriculum For Lego Mindstorms Ev3 Bridge Layer	COE 008	Weather Prediction implemented in Parallel on Cloud Platform
BIO 001	Development of Rapid Prototyped Bioreactors for Cartilage Tissue Engineering	BIO 004	Lower Body Postural Correction System With Sensor-Driven Feedback	BIO 006	Personalized Prosthesis 2.0 - Short Arm Cast
BIO 007	Development of an Automated Device for Tracheal Tissue Engineering	ELE 005	Design of Nuclear Steam HP-LP Turbines Control System	ELE 009	Rescue Robot

### ROOM 306

COE 004	Hardware Design of Secure Hash Algorithm 256	BIO 001	Programmable Cardiac Activation Display	BIO 005	Virtual Reality Trunk Muscle Training System
BIO 006	Stress Monitoring Through Footwear	ELE 002	Solar Induction Cooker Using Arduino Microcontroller	ELE 003	Energy From the Wall

### Wayfinding Legend

- Capstone Display Area
- Circulation Space
- Bathroom
- Refreshments

### Document Navigation

FIELD ### Project Name  
Easle Number  
Engineering Field

### Engineering Fields

AERO	Aerospace Engineering
BIO	Biomedical Engineering
CHEM	Chemical Engineering
CIVIL	Civil Engineering
COE	Computer Engineering
ELEC	Electrical Engineering
IND	Industrial Engineering
MECH	Mechanical Engineering

### ROOM 307

BIO 006	Tremor Data- Logger for Parkinson's Disease Patients	ELE 001	20 Watt PV Simulator-DC/DC Converter Design	ELE 002	Smart PV Charger for Li-Ion Battery- Using MPPT
ELE 003	Design Of An Extremely Miniature Satellite (Ryefemsat-Mu)	ELE 004	Battery management System	ELE 005	Microgrid Steady State Assessment

### ROOM 308

COE 008	Object Color Detection using a Drone	ELE 001	Nuclear Standby Generator Control and Protection System	ELE 002	Robotic Bartender	ELE 003	Design of Residential-Area Electricity Distribution Network and Protection
ELE 004	Electric Drive Train	ELE 005	Semi-Autonomous Driving System	ELE 006	360 Degree Imaging Module	ELE 007	Design of Nuclear Generating Station Grounding

### ROOM 309

COE 010	Accurate table retrieval from unstructured sources	BIO 001	Breathing Monitor for Real Time Rate Detection	BIO 003	Radiation Guide 2.0 – System for Patient Tracking During Radiation Therapy with IMU	BIO 005	Robotic Porter
BIO 008	Balance Trainer Biofeedback System	ELE 002	The Electronic Mind Reader	ELE 004	Autonomous Drone Charging System	ELE 006	Drone Mitigation System
ELE 007	Li-Ion Battery Cell Testing System	ELE 009	Home Energy Optimization using Energy Storage				

### ROOM 310

COE 004	Burglar Detection In Dark	COE 008	Generating Reviews for Gold Products	BIO 002	Open Source Prosthetic Arm with Non-Invasive EMG Control	BIO 005	Virtual Tailor 2.0: 3D Mobile Imaging for the Measurement & Tailoring of Custom Wear
BIO 007	3D Mobile Imaging Application for Reconstructive Jaw Surgery Focusing on Hemifacial Microsomia	ELE 001	AI Smart Home Monitoring and Control System	ELE 003	Intelligent Thermostat	ELE 006	Microgrid - Techno-Economic Assessment
		ELE 009	Automated Gardening using Wireless Sensor Mesh Network	ELE 010	Crowdsourcing Based Road Condition Monitoring System		

### ROOM 311

COE 002	Online Power Flow Assessment Tool	COE 005	Link Prediction of Unobserved Latent Spaces on Twitter	COE 009	Complex Answer Retrieval For Question Answering System
BIO 001	3D Prosthetic Arm with Microcontroller	BIO 004	Cuff-less Blood Pressure Monitor	BIO 008	Digital Stethoscope with Abnormal Sound Detection Capability
ELE 003	Semi Autonomous Robot Assistant (Sara)	ELE 006	Intelligent Mouse	ELE 007	Solar Induction Cooker- using 555 timer

### ROOM 406

COE 001	Parallel Computing For Artificial Intelligence	COE 002	Infrastructure as a service in OpenStack	COE 003	Ddos Attack Detection Systems In Software Defined Networking	COE 008	Reducing Waiting Time in ER through AI
ELE 007	SMART PHONE QUALITY OF SERVICE METER	ELE 009	Vehicle Parking and Data Management System	ELE 003	Design of Commercial-Facility Electricity Distribution Network and Protection		

### ROOM 411

COE 001	Smart Home Network	COE 006	Human-Robot Interaction in Education	COE 007	Development of Coding Curriculum of Humanoid Robot	COE 008	Building User Communities by Deep Neural Embedding
ELE 002	Dynamic Electric Vehicle Charging Station	ELE 003	Open Source Programmable Devices For Iot System	ELE 010	Design of a Smart Electricity Distribution System		

### ROOM 413

COE 003	Software Defined Networking - MPLS Routing Implementation	COE 007	Machine-Learning based DDoS Attack Detection in SDN	BIO 001	Device For Arthritis Massage With Sensory Control And Data Collection
BIO 004	Sound level monitor for audio head phone	BIO 006	Smart Wheelchair For Physically Challenged Individuals	BIO 008	Smart Muscle Relaxer
ELE 002	Fm01 - Iot Dashboard	ELE 005	Environment Sensing Glove	ELE 009	Automated Driver Monitoring And Alert System



3RD FLOOR ATRIUM DISPLAY

AERO024

Control of a Lab Helicopter with Vision Guided Aerial Drilling (Group C)

AERO025

Control of a Lab Helicopter with Vision Guided Aerial Drilling (Group D)

CHEM026

Design an urban mining plant to recycle and process about 10,000 tonnes per year of spent lithium-ion batteries

CHEM027

Design a cracking plant to treat 80,000 tonnes of crude oil per year

CIV028

Design of Residential Condominium

CIV029

Design of Police Station Building

MECH030

Electric Bike Lift

MECH032


Mars Rover Wheels

IND033

Capstone Industrial Systems Design at Airbase Service Inc.

IND034

Capstone Industrial Systems Design at Alton Windows & Doors



AERO

Aerospace Engineering

COE

Computer Engineering

BIO

Biomedical Engineering

ELEC

Electrical Engineering

CHEM

Chemical Engineering

IND

Industrial Engineering

CIVIL

Civil Engineering

MECH

Mechanical Engineering

FLOOR 3 CORRIDOR

MECH001

Smart Dual Fuel Switching System

MECH002

Coaxial Cable Core Removal

MECH003

Rotating Bending Fatigue Machine

MECH004

Design for Avoidance of Load Ratcheting Deformation

MECH005

FSAE Suspension Bellcrank - 3D printed

IND013

Capstone Industrial Systems Design at Alton Windows& Doors (Dr. K.D. Tham)

IND014

Capstone Industrial Systems Design at Canadian Tire

IND015

Capstone Industrial Systems Design at Enerlife Consulting

IND016

Capstone Industrial Systems Design at FGF Brands

IND017

Capstone Industrial Systems Design at Loblaw - Joe Fresh

IND018

Capstone Industrial Systems Design at Magna Seating\_2 (Dr. M.Wahab)

IND019

Capstone Industrial Systems Design at Magna Seating\_2 (Dr. K.D.Tham)

IND020

Capstone Industrial Systems Design at Maple Leaf Sports & Entertainment

IND021

Capstone Industrial Systems Design at Metro Distribution Centre

IND022

Capstone Industrial Systems Design at Peeknest Inc.

IND023

Capstone Industrial Systems Design at SickKids

CIVIL035

Capstone Industrial Systems Design at Sobeys (Dupont)

IND036

Capstone Industrial Systems Design at Thales

IND037

Capstone Industrial Systems Design at Toronto East Health Network

IND038

Capstone Industrial Systems Design at UNFI

IND039

Capstone Industrial Systems Design at VersaCold

IND040

Capstone Industrial Systems Design at West Jet Airlines

MECH041

Design of Snake Robot

MECH042

IoT Tomato Covers

MECH043

Thermodynamic Cycle for E-Learning

MECH044

Engne Cradle Design

MECH045

Composite Fibres Extruder for 3D Printing

MECH046

Composites for Bones

MECH047

Vegetronic - Grow Box

MECH048

Shock Asorber Energy Harvester

MECH049

Smart Wallet

MECH050

“Hands-On” Heat Conduction Lab

MECH051

Haptic Device

CIVIL115

Condominium Building Design

FLOOR 4 CORRIDOR

AERO052

Design of an all electric Cessna 172 type airplane (Group A)

AERO053

Design of an all electric Cessna 172 type airplane (Group B)

AERO054

Design of an all electric Cessna 172 type airplane (Group C)

AERO055

Design of an all electric Cessna 172 type airplane (Group D)

AERO056

Design of a RyeTubeSat (Attitude and Orbit Determination Group)

AERO057

Design of a RyeTubeSat (Simulation, Modeling & Control Group)

AERO058

Design of a RyeTubeSat (Command & Data Handling Group)

AERO059

Design of a RyeTubeSat (Structure, Assembly & Integration Group)

AERO060

Design of a RyeTubeSat (Communication Group)

AERO061

Design of a RyeTubeSat (Power Group)

CHEM062

Design a 12 MWh/year sodium battery production plant using seawater.

CHEM063

Design a plant for the production of poly(ethylene terephthalate) with capacity of 300,000 tons/year

CHEM064

Design a 2,000 metric tons/year graphene production plant considering economic, social, safety and environmental analyses

CHEM065

Merchant hydrogen production facility in Southern or Southwest Ontario, product to be sold by truck delivery, 200,000 kg per year capacity

CHEM066

Design a plant to produce 30,000 tonnes of ammonia per year

CHEM067

Waste paper recycling facility in the GTA or other location in Southern Ontario

CHEM068

Design a plant for the production of poly(methyl methacrylate) with capacity of 300,000 tons/year

CHEM069

District heating for a new housing development in a non-urban location in Canada using a renewable energy supply, approximate annual capacity of 5000 GJ per year

CHEM070

Design a 12 mega tons/year carbon nanotubes (CNT)/carbon nanofibers (CNF) production plant from emissions of CO2 at oil sands plants in Canada

CHEM071

Design of a180,000 metric tons per year benzoic acid production facility

CHEM072

Production of 80,000 tons of acetaldehyde with purity of 99.9% per year

CHEM073

Centralized or decentralized wastewater treatment plant for a storm water flow

CHEM074

Design of a process for the production of acrylonitrile with a capacity of 170,000 metric tons per year and the purity of > 99.4%.

CHEM075

Design a plant that is capable of producing 45,000 metric tons maleic anhydride per year

CHEM076

Virgin olive oil plant

CHEM077

Production of 100 metric ton/year of gallium nitride from gallium oxide.

CHEM078

Design a plant to produce 5 million liters of shampoo directed to children market

CHEM079

Design a manufacturing plant that produces 500 Ton/day of Ontario Peach marmalade

CIVIL080

Tulip Residential Project

CIVIL081

Airport Building Extension

CIVIL082

Landmark Concrete Arch Bridge w/ Prestressed Tie Girders

CIVIL083


High Accuracy Terrestrial LIDAR Data

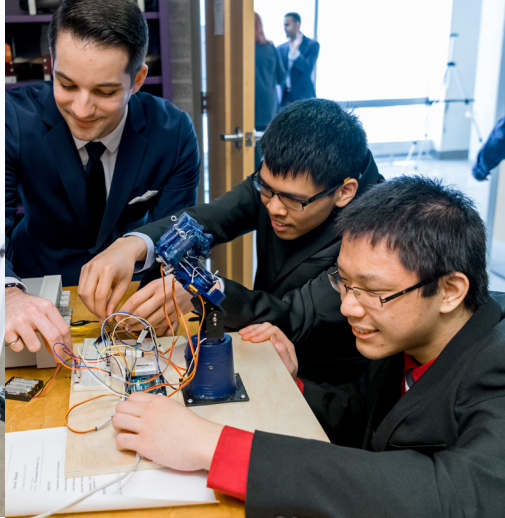
CIVIL084

Reconfiguration of University Street

CIVIL085

Dedicated Bicycle Facilities on University Ave./ Ave. Rd./Oriole Pkwy Corridor





Project Finder: CORRIDORS

CIVIL085

Residential Subdivision in City of Markham (Group Name: VACHE Engineering)

CHEM088

Design of a plant to capture 1 million metric ton/year of carbon dioxide using carbonic anhydride enzyme.

MECH091

Robotic Arm for 3D Printing

CIVIL094

Highway 400 HOV/HOT Lanes Feasibility Study

MECH097

Waste to Energy Tri-generation

MECH100

Waste Segregation and Recyclable Diversion

MECH103

Supermileage Engine Dynamometer

MECH106

Electric Dropper Post

MECH109

Backyard Cat/Racoon Deterrent

MECH112

Design of a Rigid Frame

CIVIL083

NGT Partners: Highway 400 HOV/HOT Lanes Feasibility Study

CIVIL086

Highway Seven Subdivision

MECH089

Tornadic Wind Resisting Wall

AERO092

Control of a Lab Helicopter with Vision Guided Aerial Drilling (Group A)

MECH095

Inline Powder Flow Monitor

MECH098

Composite Sports Equipment

MECH101

Investment Casting using 3D Printing

MECH104

Autonomous Lawn Mower

MECH107

Bi-Directional Lock

MECH110

UltraSonic Clothes Dryer

MECH113

Transcritical CO2 based Heat Pump

CIVIL084

Residential Subdivision in City of Markham

CHEM087

Production of 500 metric ton/year of titanium from its ore.

MECH090

Magnesium Body Panel

AERO093

Control of a Lab Helicopter with Vision Guided Aerial Drilling (Group B)

MECH096

Thermoelectric Refrigerator

MECH099

Electromagnetic Weight Lifting

MECH102

Self-Levelling Tripod

MECH105

LiDAR Robot Car

MECH108

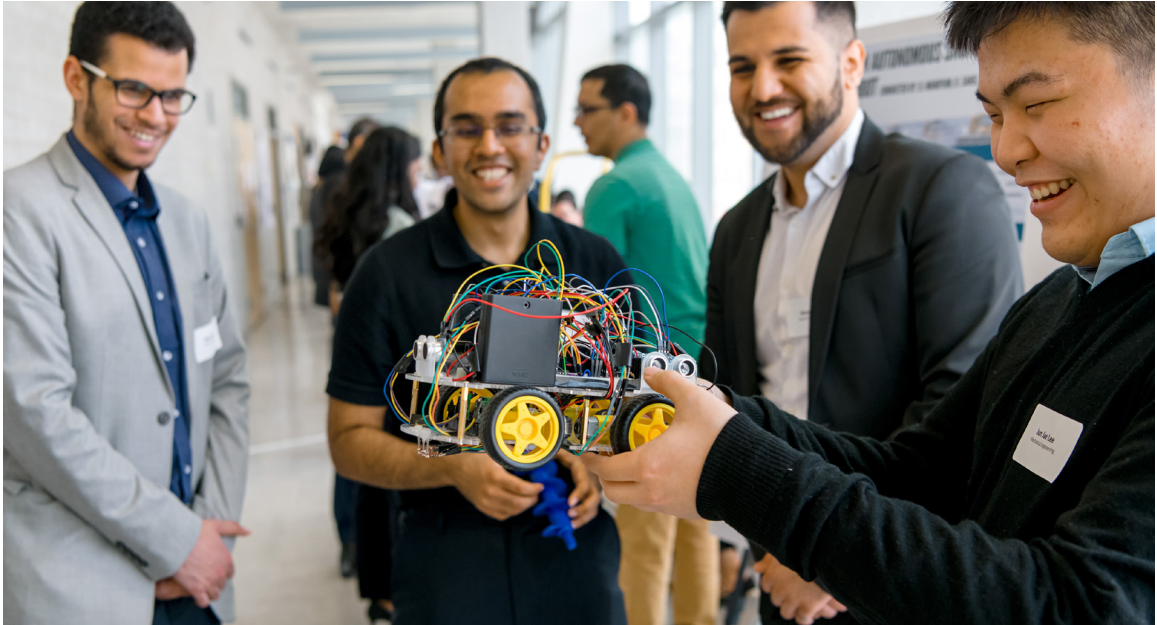
Machining in a Vacuum

MECH111

Press Changeover Re-Design

MECH114

Gutter Cleaning Robot



FLOOR 2 CORRIDOR