

# ELECTRIC VEHICLE TECHNOLOGY AND ENGINEERING SHSM

## Program Overview:

The Electric Vehicle Technology and Engineering Specialist High Skills Major (SHSM) aligns students with a strong broad base foundation in either the engineering, business, service, repair and modification of vehicles. Students in the EV Technology and Engineering SHSM are working towards an OSSD Diploma with an extra focus put on their chosen career path within the transportation sector (e.g. hybrid/electric vehicle specialist, automotive sales, auto service technician, service manager, mechanical engineer, parts clerk, small business owner, etc). Our goal is for students to have as many transportation and engineering related classes, to give them a 'leg up' when pursuing postsecondary, apprenticeship, workplace, university or college.

Based on the Transportation / Engineering sectors and the use of industry standard equipment, tools and software, in a project-driven learning environment, students will:

- Explore topics such as vehicle maintenance and ownership, electric vehicle safety mechanical design, computer electronics and programming and much much more
- Be provided opportunities to earn industry-recognized training/certifications related to Electric Vehicle safety, maintenance, repair and diagnostics from our education and industry partners , specifically Niagara College and Ford of Canada
- Design and build products that are meaningful to your learning and life experiences
- Take trips to various transportation and Engineering related facilities such as car dealers, car manufacturers, postsecondary schools and training facilities
- Expand hard and soft skills, in order to communicate through multiple platforms and research problem solving methods

## Who would be interested in this program?

Students who enroll in the Electric Vehicle Technology and Engineering SHSM are interested in exploring the areas of Vehicle Maintenance, Vehicle Design, Vehicle Repair, 3D Printing, Laser cutting products, Welding, Mechanical Design and Engineering, Computer Engineering/Electronics and Computer Programming

## Learning Outcomes:

The SHSM includes completion of Contextualized Learning Activities (CLAs) in compulsory courses such as Math and English, that reinforce and extend the student's learning with a multi-disciplinary approach.

The SHSM also includes mandatory Sector-Recognized Certifications, Safety Awareness Training and "Reach Ahead" experiences, connecting to post-secondary and career opportunities. Such certifications and experiential learning opportunities include: College and University Campus visits/lectures from sector-related professionals, leadership/customer service training, safety certifications, Welding/Plasma Cutting/Laser Cutting/Design/3D Printing workshops, WHMIS, First Aid/CPR and related field trips that reinforce Transportation (especially electric and hybrid) and Engineering pathways.

## Course Selections:

Your destination (i.e. Apprenticeship, Workplace, College, or University) will affect which courses you may want to select.

A SHSM requires you to take 9 credits (4 SHSM Major credits, Gr 11 Math, Gr 12 English, 2 Co-op credits and 1 additional Business/Science/Co-op credit), according to your pathways destination.

Upon completion of SHSM, students will receive a special SHSM seal on their Ontario Secondary School Diploma.



## SHSM Major Credit

(4 Required)

### Grade 11

- TTJ3C Transportation Technology
- TTJ3O Transportation Technology: Vehicle Ownership
- TCJ3C Construction Technology
- TCJ3E Construction Engineering
- TDA3M Architectural Design, 3D Design and Mechanical Engineering
- ICS3U Computer Programming (University)
- ICS3C Computer Programming {College}
- TEJ3M Computer Engineering

### Grade 12

(Some courses require prerequisites)

- TTJ4C Transportation Technology and
- TTJ4E Transportation Technology: Vehicle Maintenance
- TDA4M Architectural Design and Mechanical Engineering
- ICS4U Computer Science
- ICS4C Computer Programming
- TEJ4M Computer Engineering

2 Grade 11 or 12 Mandatory Co-op Credits

