

# Ladysmith Secondary School



2024-2025

## Pre-Graduation Program Course Planning Guide

**GRADE 9**

## Table of Contents

STUDENT SUPPORT PROGRAMS .....	3
GRADE 9 PROGRAM .....	4
Content (Know) .....	4
Curricular Competencies (Do) .....	4
Big Ideas (Understand) .....	4
INDIGENOUS PERSPECTIVES .....	5
HUMANITIES 9 (English 9 and Socials 9) .....	5
ENGLISH 9 (MEN--09--S) .....	5
SOCIAL STUDIES 9 (MSS--09--S) .....	5
MATHEMATICS 9 (MMA--09--S) .....	6
SCIENCE 9 (MSC--09--S) .....	6
FRENCH IMMERSION PROGRAM .....	7
GRADE 9 ELECTIVE CHOICES .....	9
MUSIC - CONCERT BAND 9 (XBA--09CBS).....	10
BASKETBALL 9 (MPHE-09BAS) .....	11
YOGA 9 (MAE—09YGS) .....	11
SOCCER 9 (MPHE-09-F-S).....	11
DANCE 9 (MDNC-09P-S) .....	12
TEXTILES 9 (MADT-09--S).....	13
FOOD STUDIES 9 (MADFS09-S) .....	13
YEARBOOK 9 (XYB--09).....	14
POWER TECHNOLOGY 9 (MADPT09--S) .....	15
WOODWORK 9 (MADW-09--S) .....	15
WEST COAST WILDERNESS STUDIES (XHL—09—S).....	15
MUSIC - JAZZ BAND 9 .....	16

As part of the BC Ministry of Education redesigned curriculum, Grade 8 and 9 programs are a continuation of the Kindergarten - Grade 7 program. Grade 8 and 9 are the final foundation layers of preparation for the Grade 10-12 Graduation Program.

**Note: Not all Elective classes mentioned will run – courses are based on student interest.**

## **STUDENT SUPPORT PROGRAMS**

### **THE KEY**

LSS has an inclusionary model of support. Through the Key, students will be supported in class by support staff (EA's), support teachers in classes, literacy and numeracy interventions and situational assignments to "The KEY". Arrangements can be made for 'KEY' support if a parent, teacher, counsellor, or administrator believes a student would benefit from extra help or an adapted environment. If a student believes they would benefit from this daily support, they should speak to their teacher, and make an appointment with their counsellor to discuss programming options. We offer short and long-term support, exam-writing space, access to technology and flexibility in regards to individual student learning outcomes and competencies. Students will be active in discussing their academic needs. In rare cases, students will be enrolled in support blocks for the purpose of specific areas of need or delivery of adapted forms of courses.

### **COUNSELLING**

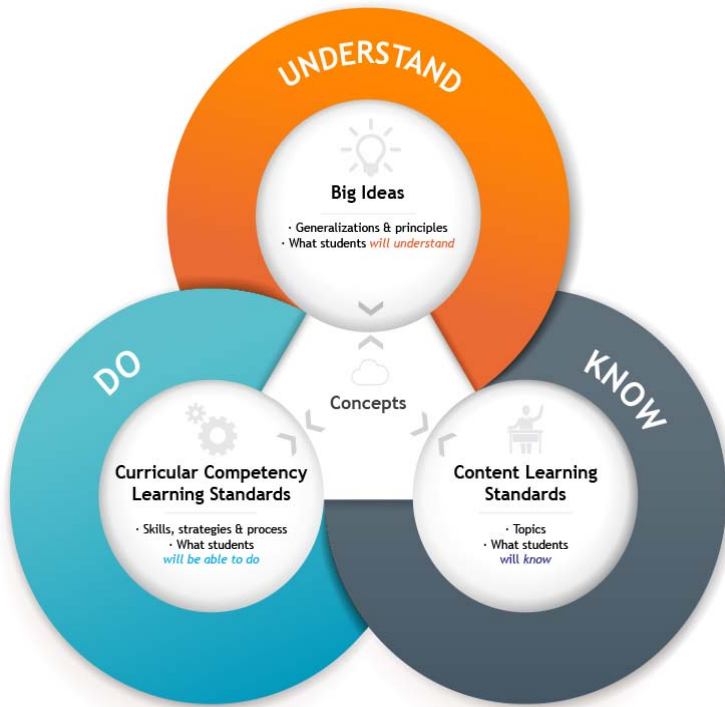
Counsellors are assigned to assist students on an advisory and consultative basis, and are available by appointment or on a drop in basis. Parents/Guardians are encouraged to contact the counsellors and subject teachers at any time they have concerns about their child's educational program or social emotional well-being.

### **INDIGENOUS EDUCATION**

Indigenous Education in NLPS enriches the educational opportunities for all students. Access to Indigenous knowledge pertaining to our First Peoples of Canada is an important component to school personnel and the student community. The goal of Indigenous Education is to ensure that Indigenous and non-Indigenous students benefit from the services offered.

Section 35 of the Constitution of Canada recognizes First Nations, Inuit, and Métis as the Indigenous Peoples of Canada. Parents and/or students can self-identify as a student with Indigenous ancestry on their student verification form. Academic, cultural, and individual development enhancement opportunities will be provided to students who are of Indigenous ancestry. The premise for this is to promote Indigenous students' understanding of their heritage, sense of belonging, and the personal belief that they can be successful in BC's Education system.

At Ladysmith Secondary School, enhancement opportunities for Indigenous and non-Indigenous students are offered through academic support, cultural appreciation and individual development. Academic Support is facilitated by the Indigenous Education Teacher and the Indigenous Education Assistant.



Cultural appreciation occurs daily through classroom, school, and community activities, leadership opportunities and the hul’q’umi’num’ teacher and classes. Individual development of Indigenous students in the school is supported by Indigenous Personnel, School Counsellors and the School Based Team.

## GRADE 9 PROGRAM

The Grade 9 program is a continuation of the Grade 8 program and focusses on skill building in all of the areas of learning. Like the Grade 8 program, the Grade 9 program is structured in a yearlong format, with opportunities for student-centered, cross-curricular projects.

Grade 9 students are required to take the following courses:

English 9, Social Studies 9, Math 9, Science 9, Physical and Health Education 9 and Career Education 9.

Grade 9 students must also choose elective courses. Courses in other areas of learning are listed on pages 9 – 14. Students who require more support to be successful may have a different program developed by LSS Staff in collaboration with the student, and parent/guardian.

### **CURRICULUM MODEL**

All areas of learning are based on a “Know-Do-Understand” model to support a concept-based competency-driven approach to learning. These three elements, the Content (Know), Curricular Competencies (Do), and Big Ideas (Understand) all work together to support deeper learning.

#### **Content (Know)**

The content learning standards — the “know” of the know-do-understand model of learning which details the essential topics and knowledge at each grade level.

#### **Curricular Competencies (Do)**

The curricular competencies are the skills, strategies, and processes that students develop over time in a specific area of learning. They reflect the “do” in the know-do-understand model of learning.

#### **Big Ideas (Understand)**

The big ideas consist of generalizations and principles and the key concepts important in an area of learning. They reflect the “understand” component of the know-do-understand model of learning. The big ideas represent what students will understand at the completion of the curriculum for their grade. They are intended to endure beyond a single grade and contribute to future understanding.

For more information: <https://curriculum.gov.bc.ca/>

## **INDIGENOUS PERSPECTIVES**

Indigenous perspectives and knowledge are an important part of the historical foundation of both B.C. and Canada, and are integrated into every subject in the new curriculum. All students will have opportunities to better understand and respect a variety of cultures, both their own and others.

For more information: <https://curriculum.gov.bc.ca/>

## **Grade 9 Core Areas of Learning**

### **HUMANITIES 9 (English 9 and Socials 9)**

#### **ENGLISH 9** (MEN--09--S or MEN--09STS)

English Language Arts is a foundational curriculum that equips students with the language and literacy skills they will need for success in school, community, career, and life. It provides students with the opportunity to become effective communicators, to develop and express their own ideas, and to think deeply and critically about the ideas of others.

The English 9 curriculum continues to build upon the curricular competencies introduced in English 8. Students will learn to express themselves through a variety of forms with clarity and depth. A variety of genres and types of texts will be explored with the aim of developing an understanding of figurative and literal expression.

The English 9 curriculum allows students to explore the following BIG IDEAS:

- Language and story can be a source of creativity and joy.
- Exploring stories and other texts helps us understand ourselves and make connections to others and to the world.
- People understand text differently depending on their worldviews and perspectives.
- Texts are socially, culturally and historically constructed.
- Questioning what we hear, read, and view contributes to our ability to be educated and engaged citizens.

#### **SOCIAL STUDIES 9** (MSS--09--S)

Social Studies draws on topics from many different areas. The Social Studies curriculum focuses on developing thinking skills through six major thinking concepts: significance, evidence, continuity and change, cause and consequence, perspective, and ethical judgment.

In Social Studies 9, students will continue to explore and better understand their own identity, perspectives, and values, as well as develop the competencies that encourage active, informed citizenship. Students will critically explore events that occurred between 1750 and 1919, and dive into topics such as political, social, economic and technological revolutions.

The Socials 9 curriculum allows students to explore the following BIG IDEAS:

- Emerging ideas and ideologies profoundly influence societies and events.
- The physical environment influences the nature of political, social, and economic change.

- Disparities in power alter the balance of relationships between individuals and between societies.
- Collective identity is constructed and can change over time.

### **MATHEMATICS 9** (MMA--09--S)

The Math curriculum provides students with the opportunities to observe, learn and engage in mathematical thinking. Students will develop mathematical values and habits of mind, which go beyond numbers and symbols. These habits of mind help connect, create, communicate, visualize, reason, and solve problems.

In Math 9, student will explore a range of topics that enhance problem solving skills and sequential, rational process thinking. Topics include exponent laws, rational numbers, simplifying algebraic expressions, solving first-degree equations, factoring, trigonometry, data analysis, and probability. These topics provide the foundation for the Mathematics Pathways offered in Grade 10.

The Math 9 curriculum allows students to explore the following BIG IDEAS:

- The principles and processes underlying operations with numbers apply equally to algebraic situations and can be described and analyzed.
- Computational fluency and flexibility with numbers extend to operations with rational numbers.
- Continuous linear relationships can be identified and represented in many connected ways to identify regularities and make generalizations.
- Similar shapes have proportional relationships that can be described, measured, and compared.
- Analyzing the validity, reliability, and representation of data enables us to compare and interpret.

### **SCIENCE 9** (MSC--09--S)

The Science curriculum gives students the opportunity to develop the skills, processes, attitudes, and scientific habits of mind that allow them to pursue their own inquiries using scientific methods.

Building on laboratory skills and the methods of scientific inquiry introduced in Science 8, students discover some of the more basic principles of physics, chemistry, ecology, and biology through experimentation and class activities. In Science 9, students study concepts such as cell division, atoms, elements and reproduction, electricity, and ecosystems and sustainability.

The Science 9 curriculum allows students to explore the following BIG IDEAS:

- Cells are derived from cells.
- The electron arrangement of atoms impacts their chemical nature.
- Electric current is the flow of electric charge.
- The biosphere, geosphere, hydrosphere and atmosphere are interconnected, as matter cycles and energy flows through them.

### **PHYSICAL AND HEALTH EDUCATION 9 (MPHE-09--S)**

Physical and Health Education (PHE) emerges from two areas of learning: physical education and health education. Both of these are brought together in order to promote and develop all aspects of well-being. The PHE curriculum is strongly linked to the personal awareness and responsibility core competencies.

The PHE 9 curriculum allows students to explore the following BIG IDEAS:

- Daily participation in different types of physical activity influences our physical literacy and personal health and fitness goals.
- Lifelong participation in physical activity has many benefits and is an essential part of a healthy lifestyle.
- Healthy choices influence our physical, emotional, and mental well-being.
- Healthy relationships can help us lead rewarding and fulfilling lives.
- Advocating for the health and well-being of others connects us to our community.

### **CAREER EDUCATION 9 (MCE--09--Y)**

The Career Education curriculum offers students many opportunities to explore and develop personal interests, passions, and competencies while making connections with learning opportunities, post-graduation options, and career and life path possibilities. Students discover that careers are not simply occupational destinations but a journey that involves lifelong planning and learning.

The Career Education 9 curriculum focuses primarily on personal development, connections to community, and life and career plans. Students will explore concepts such as identity, leadership, personal planning, conflict resolution and transferable skills. Students will also develop curricular competencies in relation to self-awareness, working with others (collaboration and communication), career knowledge and awareness, and career planning.

**Career Education 9 is required and offered as a ninth course outside the timetable. It will be incorporated throughout the grade 9 year.**

## **FRENCH IMMERSION PROGRAM**

The French Immersion 9 program parallels the English program with the addition of the *Français langue* (French Language Arts). Courses in the French Immersion program are taught entirely in French. Students are expected to speak French at all times in class.

### **FRANCAIS LANGUE 9 (FFRAL09--Y)**

Students continue to explore and develop their language competencies in a meaningful and authentic learning context. In FRAL 9, students will continue to acquire the skills, knowledge, and strategies necessary to communicate and interact effectively and confidently in French. A strong emphasis is placed on speaking, reading and writing. In this area of learning students will:

- Explore a variety of literary genres such as novels, fables and short stories

- Interpret messages to gain an awareness of the linguistic and cultural variety found in the French-speaking world
- Highlight and compare different perspectives and viewpoints
- Communicate orally in a spontaneous and effective way in response to proposed and actual situations
- Deepen their understanding of language elements and their role in effective communication
- Develop their critical thinking skills by questioning their knowledge and assumptions and modifying them accordingly.
- Apply strategies for enriching a text to improve its coherence, flow and quality

### **SCIENCES HUMAINES 9 (FSCHF09--Y)**

Sciences Humaines (ScHum) is the parallel course to Social Studies 9, but with the content, delivery, and assessments all completed in French. As the French Immersion program at LSS runs frequently as split grades, the content of Social Studies 8 and 9 is divided into a Year 1/Year 2 program. Students that remain in the program for the full 2 years will cover all of the same curricular competencies as their English counterparts.

Social Studies draws on topics from many different areas. The Social Studies curriculum focuses on developing thinking skills through six major thinking concepts: significance, evidence, continuity and change, cause and consequence, perspective, and ethical judgment.

In Year 2 Sciences Humaines, students will continue to explore and better understand their own identity, perspectives, and values, as well as develop the competencies that encourage active, informed citizenship. Students will critically explore events that occurred in North America primarily dating from early civilization to 1919, with a focus on how cultures collide, the impact of colonization, and the development of Canada as a country.

The Year 2 curriculum allows students to explore the following BIG IDEAS:

- Exploration, expansion, and colonization had varying consequences for different groups.
- The physical environment influences the nature of political, social, and economic change.
- Contacts and conflicts between peoples stimulated significant cultural, social, political change.
- Collective identity is constructed and can change over time.

### **LES MATHÉMATIQUES 9 (FMTHF09--S)**

The Math course in the French Immersion program has the same curricular competencies as the English course, but the delivery, content, and assessment will be done in French. The course provides students with the opportunities to observe, learn and engage in mathematical thinking. Students will develop mathematical values and habits of mind, which go beyond numbers and symbols. These habits of mind help connect, create, communicate, visualize, reason, and solve problems.

In Math 9, students will explore a range of topics that enhance problem solving skills and sequential, rational process thinking. Topics include exponent laws, rational numbers, simplifying algebraic



expressions, solving first-degree equations, factoring, trigonometry, data analysis, and probability. These topics provide the foundation for the Mathematics Pathways offered in Grade 10.

The Math 9 curriculum allows students to explore the following BIG IDEAS:

- The principles and processes underlying operations with numbers apply equally to algebraic situations and can be described and analyzed.
- Computational fluency and flexibility with numbers extend to operations with rational numbers.
- Continuous linear relationships can be identified and represented in many connected ways to identify regularities and make generalizations.
- Similar shapes have proportional relationships that can be described, measured, and compared.
- Analyzing the validity, reliability, and representation of data enables us to compare and interpret.

### **LES SCIENCES 9 (FSCF-09--S)**

The Sciences course in the French Immersion program has the same curricular competencies as the English course, but the delivery, content, and assessment will be done in French. The Science curriculum gives students the opportunity to develop the skills, processes, attitudes, and scientific habits of mind that allow them to pursue their own inquiries using scientific methods.

Building on laboratory skills and the methods of scientific inquiry introduced in Science 8, students discover some of the more basic principles of physics, chemistry, ecology, and biology through experimentation and class activities. In Science 9, students study concepts such as cell division, atoms, elements and reproduction, electricity, and ecosystems and sustainability.

The Science 9 curriculum allows students to explore the following BIG IDEAS:

- Cells are derived from cells.
- The electron arrangement of atoms impacts their chemical nature.
- Electric current is the flow of electric charge.
- The biosphere, geosphere, hydrosphere and atmosphere are interconnected, as matter cycles and energy flows through them.

## **GRADE 9 ELECTIVE CHOICES**

### **Languages**

#### **CORE FRENCH 9 (MFR--09--S)**

The Core French 9 curriculum builds on the language competencies from Core French 8. Students will engage in learning experiences through which they can become proficient users of French, gain new perspectives, and engage with Francophone communities. All levels of French incorporate the four essential skills of listening, speaking, reading and writing at steadily increasing levels of complexity. Some of the goals of this area of learning are that students will communicate with purpose and confidence in

French, appreciate the interconnectedness of language and culture, and understand the educational, travel, and career opportunities that learning an additional language offers.

The Core French 9 curriculum allows students to explore the following BIG IDEAS:

- Listening and viewing with intent deepens our understanding of French.
- We can have meaningful conversations about things that are important to us in French.
- Stories give us unique ways to interpret and share knowledge, thoughts, and feelings.
- Francophone creative works are an expression of Francophone culture.
- Creative works allow us to experience culture in an authentic way.
- Acquiring a new language and learning about another culture deepen our understanding of our own language and culture.

### **SPANISH 9** (MSP--09--S)

This course offers a strong four-skill learning approach. Listening, speaking, reading and writing are presented through a series of lessons and activities which are written in a conversational manner to aid oral proficiency and communicative competency. Vocabulary is presented thematically and emphasizes practical topics. At the same time, varied cultural materials help students to appreciate Spanish-speaking peoples throughout the world.

### **FINE ARTS**

The Arts Education curriculum strives to encourage students' artful habits of mind through engaged arts learning. The curriculum includes a general arts program, as well as four core discipline-specific programs – dance, drama, music, and visual arts – that capture the language, activities, and experiences unique to each of those disciplines.

### **VISUAL ARTS 9** (MVA--09--S)

The Visual Arts 9 curriculum introduces students to the elements and principles of design. In this course students will explore drawing, painting and sculpture. Students have the opportunity to experiment with various media (art materials) in order to develop and refine their knowledge and skills of the visual arts.

The Visual Arts 9 curriculum allows students to explore the following BIG IDEAS:

- Identity is explored, expressed and impacted through visual arts experiences.
- The visual arts provide opportunities to gain insight into perspectives and experiences of people from a variety of times, places and cultures.
- Art experiences can build community and nurture relationships with others.
- The visual arts use a unique sensory language for creating and communicating.

### **MUSIC - CONCERT BAND 9** (XBA--09CBS)

Concert Band 9 continues to foster enjoyment of music through the ensemble experience. Major units of the course include music literature, music performance, and music theory. These elements are

synthesized and explored in a holistic manner rather than approached separately. Students enrolled in Concert Band participate in a number of concerts and festivals throughout the course.

The Music – Concert Band 9 curriculum allows students to explore the following BIG IDEAS:

- Identity is explored, expressed and impacted through music experiences.
- Music provides opportunities to gain insight into perspectives and experiences of people from a variety of times, places and cultures.
- Collaborative music experiences can build community and nurture relationships with others.
- Music uses a unique sensory language for creating and communicating.

### **BASKETBALL 9** (MPHE-09BAS)

This is a grade 9 elective course. Students will develop the following curricular competencies:

- Demonstrate appropriate movement skills with and without the ball
- Develop and demonstrate strategies to effectively participate in a basketball game
- Develop and demonstrate skills learned to help improve all aspects of basketball
- Learn about the rules and guidelines of basketball
- Plan ways to overcome potential barriers to participation
- Develop and demonstrate skills needed to plan, organize, and safely participate in basketball and other preferred physical activities
- Identify and implement tactics to increase their chances of success
- Explain the importance of resilience in maintaining personal health
- Learn about injury prevention and management
- Learn about the potential short- and long-term consequences of health related decisions
- Learn about techniques for organizing and supervising activities
- Learn how to score keep and run the score clock during a basketball game

### **YOGA 9** (MAE—09YGS)

This Yoga Class is an encouraging, welcoming atmosphere for students of all levels. You do not need to be flexible to enroll in yoga - you will become more flexible as a result of being in the course. This course focuses on a variety of yoga styles including gentle stretching, relaxation, brainwork, power yoga and yoga fitness. In addition to focusing on Yoga as an activity, this course will also allow students to develop an understanding of their strengths, weaknesses and personal preferences in planning and achieving fitness goals. Students will also learn about how healthy choices influence, and are influenced by, our physical, emotional and mental well-being.

### **SOCCER 9** (MPHE-09-F-S)

Students will develop the following curricular competencies:

- Demonstrate appropriate movement skills with and without the ball
- Develop and demonstrate strategies to effectively participate in a soccer game
- Develop and demonstrate skills learned to help improve all aspects of soccer
- Learn about the rules and guidelines of soccer
- Plan ways to overcome potential barriers to participation

- Develop and demonstrate skills needed to plan, organize, and safely participate in soccer and other preferred physical activities
- Identify and implement tactics to increase their chances of success
- Explain the importance of resilience in maintaining personal health
- Learn about injury prevention and management
- Learn about the potential short- and long-term consequences of health related decisions

Learn about techniques for organizing and supervising activities.

### **DANCE 9** (MDNC-09P-S)

The LSS dance program encourages students to engage in dance as a unique medium for exploring one's identity, sense of belonging, and ability to effect change. Dance is informed by the history, culture, community, and value system in which it exists. Students will grow in their skills as dancers through perseverance, resilience, and risk taking. Through purposeful artistic choices and critical thinking, dancers can express meaning and exchange ideas both individually and collaboratively.

Dance 9 introduces students to movement in a variety of genres that may include ballet, jazz, hip-hop, and world culture dance. This course helps students develop skills in choreography, collaboration, and problem solving. In addition to in-class participation, there may be an opportunity for students to participate in a variety of workshops with guest instructors.

The Dance 9 curriculum allows students to explore the following BIG IDEAS:

- Identity is explored, expressed, and impacted through dance experiences.
- Dance provides opportunities to gain insight into perspectives and experiences of people from a variety of times, places, and cultures.
- Collaborative dance experiences can build community and nurture relationships with others.
- Dance uses a unique sensory language for creating and communicating.

### **DRAMA 9** (MDR--09--S)

Drama 9 introduces students to a variety of acting skills including movement, mime, speech, and improvisation as well as a variety of theatre genres including reader's theatre, story theatre, puppetry, mask, and script work. Students explore two approaches to theatre in this course: creative drama based on the developmental method and the theatre approach based on the use of scripts.

The Drama 9 curriculum aims to create a trusting atmosphere in which students can create, play, and explore many different forms of self-expression.

The Drama 9 curriculum allows students to explore the following BIG IDEAS:

- Identity is explored, expressed, and impacted through drama experiences.
- Drama provides opportunities to gain insight into perspectives and experiences of people from a variety of times, places, and cultures.
- Collaborative drama experiences can build community and nurture relationships with others.
- Drama uses a unique sensory language for creating and communicating.

## **ADST – Applied Design, Skills & Technologies**

The Applied Design, Skills, & Technologies (ADST) curriculum builds on students' natural curiosity, inventiveness, and desire to create and work in practical ways. It harnesses the power of learning by doing, and provides the challenging fun that inspires students to dig deeper, work with big ideas, and adapt to a changing world. It provides learning opportunities through which students can discover their interests in practical and purposeful ways.

ADST includes skills and concepts from a variety of disciplines and provides rich opportunities for cross-curricular work.

All ADST courses allow students to discover the following Big Ideas:

- Social, ethical, and sustainability considerations impact design.
- Complex tasks require the sequencing of skills.
- Complex tasks require different technologies and tools at different stages.

## **TEXTILES 9 (MADT-09--S)**

Textiles 9 is a course where students will learn to create garments through construction techniques that focus on design process and sewing skills. Students will use the elements and principles of design in creating textile items. Both hand and machine techniques will be used to repair and upcycle clothing, and commercial patterns will be used to create a variety of interesting projects using natural and manufactured textiles. The basics of fashion illustration will also be explored and students will discover how textile choice influences the environment in both local and global communities. Students will study historical uses of textile items and the correlating influences on modern textiles, including those of Canada's First Peoples. Students will do some class specific projects as well as their own personal choice projects based on their skill level and knowledge of fabrics. This hands-on class is a great place to express creativity and learn practical skills.

## **FOOD STUDIES 9 (MADFS09--S)**

The area of Home Economics focuses on fundamental needs and practical concerns of individuals and families in a changing and challenging world. It integrates knowledge, processes, and practical skills from multiple areas, including foods studies, and provides opportunities for creative applications and critical examination from global citizenship perspectives.

The Food Studies 9 curriculum offers students the opportunity to explore the following:

- Components of food preparation, including use of adaptations of ingredients, techniques, and equipment
- Health, economic, and environmental factors that influence availability of choice of food in personal, local, and global contexts
- Ethical uses and related food systems
- First Peoples traditional food use, including ingredients, harvesting/gathering, storage, preparation, and preservation
- Pathogenic microbes associated with food-borne illnesses

## **YEARBOOK 9 (XYB--09)**

Graphic Production (Desktop Publishing) is a course designed around the construction and creative process of building the NDSS Yearbook. Students will engage in a period of creative design and collaboration to determine theme and continuity of design. Students will learn design theories such as principals of design, typography, and other design elements. Additionally, students will learn effective time management, organization, and communication to complete projects and assignments in a timely manner.

## **INFORMATION AND COMMUNICATIONS TECHNOLOGIES 9 (MADIT09--S)**

The area of Information Technology encompasses evolving processes, systems, and tools for creating, storing, retrieving, and modifying information. As students design, share, and adapt knowledge in critical, ethical, purposeful, and innovative ways, they gain perspective on the long-term implications of life in a digital, connected world and develop literacies to responsibly take ownership of such technologies to augment learning and benefit society.

The Information and Communications Technologies 9 curriculum offers students the opportunity to explore the following:

- Text-based coding and design for the web
- Binary representation of various data types, including text, sound, pictures, videos
- Development and collaboration in a cloud-based environment
- Design and function of networking hardware and topology, including wired and wireless network router types, switches, hubs, wireless transfer systems, and client-server relationships
- Function of operating systems, including mobile open source and proprietary systems
- Current and future impacts of evolving web standards and cloud-based technologies
- Relationships between technology and social change
- Strategies to manage personal learning networks, including content consumption and creation
- Keyboarding techniques

## **ELECTRONICS AND ROBOTICS 9 (MADER09--S)**

Technology Education involves students in the design and fabrication of objects using a variety of materials, methods, technologies, and tools in order to develop their ability to shape and change the physical world to meet human needs. Technology Education includes areas such as woodwork, electronics, drafting, power mechanics, and robotics.

The Electronics and Robotics 9 curriculum offers students the opportunity to explore the following:

- Components of an electric circuit
- Ways in which various electrical components affect the path of electricity
- Basic robot behaviours using input/output devices, movement and sensor-based responses, and microcontrollers
- Mechanical devices for the transfer of mechanical energy

- Mechanical advantage and power efficiency, including friction, force, and torque
- Robotics coding and various platforms for robotics programming

### **POWER TECHNOLOGY 9 (MADPT09--S)**

Technology Education involves students in the design and fabrication of objects using a variety of materials, methods, technologies, and tools in order to develop their ability to shape and change the physical world to meet human needs. Technology Education includes areas such as woodworking, electronics, drafting, power mechanics, and robotics.

The Power Technology 9 curriculum offers students the opportunity to explore the following:

- Energy transmission and applications
- Efficiency, including energy loss in the form of thermal energy
- Thermodynamics and the effect of forces on devices
- Types of fuels and methods of converting fuels to mechanical energy
- Alternative energy sources
- Small engine systems and power technology hand tools
- Mechanical measurement devices

### **WOODWORK 9 (MADW-09--S)**

Technology Education involves students in the design and fabrication of objects using a variety of materials, methods, technologies, and tools in order to develop their ability to shape and change the physical world to meet human needs. Technology Education includes areas such as woodworking, electronics, drafting, power mechanics, and robotics.

The Woodwork 9 curriculum offers students the opportunity to explore the following:

- Importance of woodwork in historical and cultural contexts, locally and throughout Canada
- Identification, characteristics, properties, and users of wood from various tree species
- Techniques for adjusting plans and drawings
- Woodworking techniques and traditional and non-traditional joinery using a variety of tools and equipment, including stationary power equipment
- The relationship between First Peoples culturally modified trees and sustainable use of wood
- Issues in sustainable use of wood

### **WEST COAST WILDERNESS STUDIES (XHL—09—S)**

A beginning course brings learning to life and connects students to the natural world around them. This course gives students the opportunity to learn through experiential education. Students are expected to develop confidence within themselves and gain practical knowledge of their surrounding environment here on Vancouver Island. A goal of this course is to equip students with life and safety skills that would allow them to become lifelong users of the outdoors. The course will include the following topics:

fishing, animal identification and regulations, camping, water safety, post-secondary career options in the outdoors, geocaching, orientation, survival, and leadership activities, and many more. Students will have the opportunity to receive certification in boat and water safety as well as CPR and AED training. (Note: this is NOT a Physical Education credit)

### **Opportunities Outside the Timetable**

#### **MUSIC - JAZZ BAND 9** (MMU--09JEA)

Jazz Band takes place outside of the formal timetable. This is a beginning course on playing Jazz Music. Students enrolled in this course will be introduced to Jazz concepts and develop technical knowledge and music literacy. The Jazz Band performs in concerts, festivals, and on tour. Jazz Band cannot accommodate all music program students. The days and times will be set by the instructor.