



Middlebury Union High School

Course Description

Catalog

2022-2023

Personnel Directory

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Catherine D. Dieman, Assistant Principal, 382-1500
Sean Farrell, Activities Director, 382-1196
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Student Services:

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504/Learning Lab Coordinator

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Michaela Bicknell
School-based Clinician

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Emily Schademan
School-based Clinician

Sarah Soule
Post-Secondary Planning Coordinator

Brooke Jette
Prevention Specialist

Keith Collins
Community Service/Work-based
Learning Coordinator

Connor Sousa
School Resource Officer

Kelly Landwehr
School Nurse

Arlene Mathewson
Associate School Nurse

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Message from the Principal

In the fall of 2016, the ACS D Board voted to adopt the International Baccalaureate (IB) curriculum for the entire district, pre-K through 12. International Baccalaureate Organization (IBO) is an internationally regarded academic framework, firmly rooted in its commitment to providing students with opportunities to develop the skills necessary to succeed in a globally-interdependent world. MUHS is an authorized IB Middle Years Program (MYP) and Diploma Program (DP) school, part of the ACS D IB World District.

During the 2022-2023 school year, we will continue to refine our Middle Years Program (MYP) in grades 9 - 10 which includes the Grade 10 Personal Project. This project is intended to provide students with an opportunity to demonstrate and be formally assessed on the MYP approaches to learning and apply these skills to a topic of personal interest. The Personal Project is a required part of each student's Personalized Learning Plan.

All departments offer a variety of DP courses for students in grades 11 and 12; students may choose to complete one or more DP courses, earning a certificate in each course. DP courses are for all grade 11 - 12 students; many students may elect to take DP courses for MUHS credit only. Courses will be offered at the standard level (SL), higher level (HL), and at times both levels combined. Grade 11 students may choose to complete all requirements of the Diploma Program, potentially earning an official diploma from the IBO. All MUHS students will be required to take the Theory of Knowledge (TOK) course to fulfill graduation requirements. To see more detailed information about DP and IBs requirements you can access the *MUHS Diploma Program Handbook*, available online through the MUHS website.

All Middlebury Union High School students are IB students, and all staff and students will strive to model the IB Learner Profile. This *Course Description Catalog* includes information about course offerings, graduation requirements, grading, Honor Roll, GPA/class rank, and elective programs. This information is provided to help students plan a comprehensive program to meet their scholastic and personal goals as outlined in their Personal Learning Plan. Students and parents should read through the entire *Course Description Catalog* to gain an overview of the academic offerings at MUHS.

Please do not hesitate to give us a call if you have any questions as you move through the important process of selecting courses for next year. I wish all of you the very best throughout this exciting journey.

Justin M. Campbell
Principal

Middlebury Union High School Mission Statement

OUR VISION: All students will graduate as independent, life-long learners possessing the knowledge, skills and qualities necessary to be contributing members of the local and global community.

OUR CORE VALUES: In partnership with families and the community, our mission is to educate all students to the highest academic and personal standards by providing diverse, challenging and innovative learning opportunities in language acquisition, language and literature, individuals and society, sciences, mathematics, arts, physical and health education, and design.

OUR BELIEFS:

- Rigorous, relevant, academic opportunities provide engagement, enrichment and self-expression;
- Welcoming and safe classrooms promote purposeful teaching and learning;
- Access to educational technology supports students in developing approaches to learning skills (ATLs);
- World languages, and co-curricular, artistic and athletic offerings provide further personal growth;
- Positive relationships encourage respect for diversity, kindness and generosity of spirit and understanding that other people, with their differences, can also be right;
- Open communication enhances an inclusive and personalized learning environment;
- Embracing healthy practices promotes physical and emotional wellness;
- On-going self-reflection fosters a stronger, dynamic school and community action; and
- Schools should model and reinforce the qualities of hard work and perseverance.

At MUHS we strive to develop engaged, compassionate, lifelong learners by fostering the development of the IB Learner Profile attributes. These attributes are:

- Inquirer
- Knowledgeable
- Effective communicator
- Reflective
- Critical and creative thinker
- Principled
- Open-minded
- Caring
- Courageous/Risk-takers
- Balanced

International Baccalaureate (IB) Learner Profile

The Middle Years and Diploma Programs are both built upon the Learner Profile. The aim of all IB programs is to develop internationally-minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

As IB learners, we strive to be:

INQUIRERS

We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

KNOWLEDGEABLE

We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

THINKERS

We use critical and creative thinking skills to analyze and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

COMMUNICATORS

We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

PRINCIPLED

We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

OPEN-MINDED

We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

CARING

We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

COURAGEOUS (RISK-TAKERS)

We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

BALANCED

We understand the importance of balancing different aspects of our lives-intellectual, physical, and emotional-to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

REFLECTIVE

We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

International Baccalaureate (IB) Education

The IB continuum of international education, for students grades pre-K to 12, is unique because of its academic and personal rigor, challenging students to excel in their studies and personal growth. The IB aims to inspire a quest for learning throughout life that is marked by enthusiasm and empathy.

The IB aspires to help schools develop well-rounded students, who respond to challenges with optimism and an open-mind, are confident in their own identities, make ethical decisions, join with others in celebrating our common humanity and are prepared to apply what they learn in real-world, complex, and unpredictable situations.

The IB offers high-quality programs of international education that share a powerful vision. An IB education:

- focuses on learners– the IB’s student-centered programs promote healthy relationships, ethical responsibility and personal challenge
- develops effective approaches to teaching and learning – IB Programs help students to develop the attitudes and skills they need for both academic and personal success
- works within global contexts – IB programs increase understanding of languages and cultures, and explore globally significant ideas and issues
- explores significant content – IB programs offer a curriculum that is broad and balanced, conceptual and connected. Informed by values described in the Learner Profile, IB learners strive to become inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, courageous/risk-takers, balanced, and reflective. These attributes represent a broad range of human capacities and responsibilities that go beyond intellectual development and academic success.

The Middle Years Program (MYP)

The MYP is designed for students in grades 6 to 10. It provides a framework of learning that encourages students to become creative, critical, and reflective thinkers. The MYP emphasizes intellectual challenge, encouraging students to make connections between their studies in traditional subjects and the real world. It fosters the development of skills for communication, intercultural understanding and global engagement—essential qualities for young people who are becoming global leaders. Students will be expected to complete courses in the six core areas as 9th (MYP Year 4) and 10th (MYP Year 5) graders. The six core areas are Language & Literature, Language Acquisition, Individuals & Societies, Science, Math and Physical Education/Health.

The Middle Years Program:

- addresses holistically students’ intellectual, social, emotional and physical well-being,
- provides students opportunities to develop the knowledge, attitudes and skills they need to manage complexity and take responsible action for the future,
- ensures breadth and depth of understanding through study in eight subject groups,
- requires the study of at least two languages (language of instruction and additional language of choice) to support students in understanding their own cultures and those of others,
- empowers students to participate in service within the community, and
- helps to prepare students for further education, the workplace and a lifetime of learning.

References:

- International Baccalaureate. (2015). MYP Programme Brochure. Retrieved from: <http://www.ibo.org>
- Shaker Heights School District. (2017). Academic Planning Guide. Retrieved from: <http://www.shaker.org>

The Diploma Program (DP)

The Diploma Program (DP) is an academically challenging and balanced program of education, and most of our grade 11/12 offerings are DP courses. Each subject area has a clearly communicated curriculum that we are required to expose our students to. Students may select to be in DP courses to earn MUHS credit only, or they may choose to complete both Year 1 and Year 2 of the course and earn a certificate from IB. Finally, some students may choose to be full diploma candidates and take courses in the six required subject areas throughout grades 11 and 12 (see below). Certificate and diploma candidates must complete final exams in May of grade 12, scheduled by the IB. This program prepares students, in grades 11 and 12, for success in college and life beyond. The program has gained recognition and respect from the world's leading universities.

The Diploma Program prepares students for effective participation in a rapidly evolving and increasingly global society as they:

- develop physically, intellectually, emotionally and ethically,
- acquire breadth and depth of knowledge and understanding, studying courses from 6 subject groups,
- develop the skills and a positive attitude toward learning that will prepare them for higher education,
- study at least two languages and increase understanding of cultures, including their own,
- make connections across traditional academic disciplines and explore the nature of knowledge through the program's unique Theory of Knowledge course,
- undertake in-depth research into an area of interest through the lens of one or more academic disciplines in the Extended Essay, and
- enhance their personal and interpersonal development through the Creativity, Action and Service Project.

The Diploma Program Curriculum

At the DP level, the IB divides academic courses into six different groups. There is one interdisciplinary course, Environmental Systems and Societies, that can count toward either a Science or an Individuals and Societies credit.

The Six Academic Groups:

Group 1 - Language & Literature

Group 2 - Language Acquisition

Group 3 - Individuals and Societies

Group 4 - Sciences

Group 5 - Mathematics

Group 6 - The Arts (Visual Art and Music)

Besides DP courses, MUHS also offers Middlebury Core classes in grades 11 and 12. These courses are based on state and national standards, but unlike DP courses, the curriculum has been designed by our teachers, not IB.

How to Earn an IB Diploma:

Students must earn points (based on IB internal and external assessments) from each of the six academic groups. Along with earning points on the exams, students must also successfully complete the Extended Essay (EE), Theory of Knowledge (TOK) course, and a Creativity-Activity-Service (CAS) portfolio.

DP subjects can be taken at higher level (HL) or standard level (SL). At least three and **not more than four subjects** can be taken at higher level, while the other subjects are taken at standard level.

Students may elect to **not take** a course in The Arts by taking an additional course in either Language Acquisition, Individuals & Society, or The Sciences.

IB Diploma Requirements:

In order to be **eligible** to earn an IB Diploma, students must meet the following criteria:

- 1) Students must study six subjects, plus the three core subjects— Extended Essay (EE), Theory of Knowledge (TOK) and Creativity, Activity, Service Project (CAS). They must accumulate no fewer than 24 points from assessments in these subjects, in addition to grade stipulations.
- 2) Earn grades of a D or better for both TOK and EE.
- 3) Complete an approved program of CAS.
- 4) Have no more than two scores of 2 awarded in (Higher Level (HL) or Standard Level (SL) courses).
- 5) Receive a score of 4 or better in at least three courses (Higher Level (HL) or Standard Level (SL) courses)
- 6) Earn 9 points or more in SL subjects. (Candidates who register for two SL subjects must gain at least 5 points at SL).
- 7) Complete a minimum of 12 HL points (if taking 3 HL courses) or 16 HL points (if taking 4 HL courses).
- 8) The candidate has not received a penalty for academic misconduct from the IB final award committee or MUHS.

Interested DP candidates should also visit the MUHS DP Handbook available online, through the MUHS website.

IB Career Program (CP)

It is anticipated that starting with the 2022-2023 school year, the Hannaford Career Center will be offering IB classes in conjunction with the high school's DP program. The Career Program (CP) focuses on preparing students for a career after high school, and also gives students valuable training before pursuing other post-secondary programs of study. CP has its own distinct requirements, students in this program must also complete two standard level DP courses.

Frequently Asked IB Questions about the Full Diploma Program

1. What are the other requirements for an IB Diploma besides taking IB courses?

At the core of the IB Program are three central elements, they are called Theory of Knowledge (TOK), Creativity-Action-Service (CAS), and an Extended Essay (EE). Students who seek to earn an IB Diploma must complete the requirements of these three parts of the IB Program.

2. What is Theory of Knowledge (TOK)?

TOK is a course that is typically taken by grades 11 and 12 students. It is an interdisciplinary course designed to help students question and understand how they know what they know. Students study how individuals from various disciplines view the world to develop their own ways of thinking. By stimulating critical reflection and analysis of knowledge and experience across disciplines, TOK seeks to bridge and unify the academic subjects, in essence, to help students make sense of school and the world. Diploma candidates must take TOK in both grade 11 and 12.

3. What is Creativity-Activity-Service (CAS)?

CAS is an experiential learning component of the IB. Students seeking to earn an IB Diploma must participate in CAS during grades 11 and 12. A wide-variety of activities fulfill this requirement, including many extracurricular, community service, and athletic activities.

4. What is the Extended Essay (EE)?

The Extended Essay introduces students to the demands and rewards of independent work. Emphasis is placed on engaging in personal research and communicating ideas effectively to write a 4,000-word essay (about 18 pages) in an area of personal interest to the student. Each student seeking to earn an IB Diploma must write an Extended Essay over the course of the grade 11 and 12 years.

5. How do students get evaluated in the IB Program?

Students enrolled in IB courses still get grades from their classroom teachers, still take tests, do homework, complete projects—the same as any other MUHS student. In addition, students enrolled in IB courses (as diploma or course certificate candidates) take formal exams in May. Working in partnership with local teachers, the International Baccalaureate Organization (IBO) ensures that students have ample opportunity to demonstrate what they know and are able to do. The IBO compiles information about students from their teachers, from work students do over the course of the year, and from the end-of-course exams given in May to determine a final score on a 1 to 7 scale. Diploma candidates need a total of at least 24 points (out of a possible 45) to earn the full diploma.

6. What are the advantages of taking IB courses?

The major advantages include a challenging learning environment, excellent preparation for higher education, recognition of IB coursework by college admission officers, the possibility of earning college credit or advanced standing, and the benefit of receiving a well-rounded, world-class, liberal arts education.

7. What is the benefit of taking individual DP courses?

While the IB suggests that students attempt a full diploma, not all students will take the full diploma course load leading to an IB Diploma. Some students may choose selected courses where they have particular interests or strengths. Students who satisfactorily complete a DP course will earn a certificate from IB, and the course will be noted on their permanent transcript.

8. How widely accepted is the IB Diploma?

The IB Diploma is an internationally accepted standard of excellence, accepted by universities and other institutions in over eighty countries. The IB website lists colleges and universities that grant credit, scholarships, and/or advanced standing for IB diplomas and certificates. When students are applying to universities, decisions about admissions will be partially based on their high school transcripts, not on whether they earn the Diploma. The most important factor in admissions will be the work in DP classes, not scores on the IB exams. However, IB exam scores will be important in decisions about placement and credit, so it is important to do well on IB exams, too.

9. What is the Career Program (CP) and will this be offered?

The Career Program is centered around developing student skills for a successful transition to a career upon graduation from high school. CP students engage with a rigorous study program that genuinely interests them while gaining transferable and lifelong skills. PHCC is in the process of developing its Career Program; the current plan is to have this program running beginning the 2022-2023 school year.

10. What are the requirements of the Career Program?

Students must also be enrolled in and complete at least two DP courses in any of the subjects offered at MUHS. The CP core requirements give context to the DP courses and career-related study, drawing all aspects of the framework together. Through the CP core, students develop personal qualities and professional skills, as well as intellectual habits required for lifelong learning.

Academic Planning Information

Graduation Requirements

Graduation requirements for the classes of 2023 through 2026 are as follows:

Students must earn a minimum of 23 credits with the following distribution:

Language and Literature	4 credits
Language Acquisition	1 credit (2 recommended)
Individuals and Societies	3 credits
Sciences	3 credits
Mathematics	3 credits
Arts/Design	2 credits
Physical Education	1.5 credits
Health Education	1 credit
Theory of Knowledge	1 credit
Electives	3.5 credits

In addition, students will need to complete the following:

- Personalized Learning Plan (PLP) - in grades 9 - 12 which includes the Grade 10 Personal Project. Earning a score of 3 or higher on each of the three Personal Project assessment criteria earns 0.25 elective credit and makes student's eligible to enroll as full DP candidates at the beginning of grade 11.

Note: All of the above courses in the distribution are aligned with the ACSD Essential Learning Outcomes (ELOs), which are derived from associated National and State Standards; and IB Learner Profile. Therefore, successful completion of these courses will indicate proficiency. Credits will be awarded based on demonstrations of proficiency, see the *MUHS Teaching & Learning Guide* for more information.

Those completing the full International Baccalaureate (IB) Diploma Program (DP) will have specific requirements further defining this distribution, including the completion of an Extended Essay and Creativity, Activity, Service (CAS).

Typical Credit Distributions and Additional Requirements

(students must carry a minimum of 7 credits each year)

Subject Area	Middlebury Core ¹				Diploma Program ²
	Typical Credit Distribution Grade 9	Typical Credit Distribution Grade 10	Typical Credit Distribution Grade 11	Typical Credit Distribution Grade 12	Specific Requirements Grades 11 & 12
Language and Literature (English)	1	1	1	1	Students must be in 6 DP courses, one from each academic group. 3 must be SL courses and 3 HL courses.
Language B/Language Acquisition	1	1 (recommended)	optional	optional	
Individuals and Societies (Social Studies)	1	1	1	optional	
Sciences	1	1	1	optional	
Mathematics	1	1	1	optional	
Arts and/or Design	2				
Physical Education	½	½	½		
Health	½	½			
Theory of Knowledge			1		
Electives	optional	optional	optional		
PLP	✓	✓	✓	✓	✓
Extended Essay					✓
Creativity, Activity, Service					✓

1- Timing of MUHS courses and alternative learning opportunities are flexible. Credits will be awarded based on demonstrations of proficiency.

2 - The IB DP also includes specific exam requirements. Students on any Middlebury Core path to graduation may elect to take some DP courses without pursuing the IB diploma.

Personalized Learning Plans

Personalized Learning Plans (PLP) are developed by students in collaboration with teachers, advisors, counselors and parents to help them achieve short and long-term learning goals. Throughout the school year, students are asked to describe their post-secondary goals, assess their learning strengths and challenges, identify personal interests, use flexible pathways, as well as document their major learning accomplishments. The goal of PLPs is to motivate students to take a stronger sense of ownership over their education, and as a result, achieve more in school.

Students will be encouraged to incorporate features of their graduation requirements into their PLPs. These include, but are not limited to, the Grade 10 Personal Project, and other culminating projects.

Proficiency-Based Assessment in Grades 9 - 12

Beginning in the 2022-2023 school year, teaching, learning and assessment in all MUHS courses will be connected to clearly defined course proficiencies. Students' academic growth in courses will be measured against these proficiencies with rubrics that are common and consistent among all sections of a course, regardless of the teacher.

Grade 9 and 10 courses use the MYP Year 5 criterion rubrics to assess student work. These rubrics build on what students are expected to know, understand and be able to do in their middle school courses. The goal is for students in grades 6 – 10 to recognize what is expected of them across the program, seeing similarities year-to-year as well as how the expectations are consistently deepened as they grow. These rubrics, which are modified with task-specific clarifications where appropriate, clearly outline expectations for student achievement and assess student progress on a scale of 0 - 8.

Assessment in all courses is on-going, using both formative assessments (which inform teaching and learning) and summative assessments (which measure what students know and can do). All units culminate with at least one summative assessment, but often provide multiple summative opportunities.

Demonstrating proficiency to earn MUHS credit: Proficiency is demonstrated when a student has a criterion achievement level of 3 or higher for each of the four individual assessment criteria in a course. Students who have not yet earned a criterion achievement level of 3 or higher for each criterion in a course are **not yet proficient and are not currently passing the course**.

Reporting Student Achievement

Interim reports will be generated at the halfway point of each quarter. Interim reports will consist of Approaches to Learning (ATL) scores only.

Quarterly report cards will show a student's level of proficiency in each of the criteria assessed in the given class. This score will range from a minimum of 0 to a maximum of 8. Quarterly report cards will also include updated feedback on students' Approaches to Learning (ATL).

For more detailed information about assessment practices, report cards and transcripts, refer to the *MUHS Teaching & Learning Guide* online through the MUHS website.

Grade Point Average (GPA)

GPA is a numerical calculation determined by a student's grades and credits earned. At Middlebury Union High School, GPA is weighted to give merit to those students who challenge themselves in DP Higher Level courses, college courses, and Advanced Placement (AP) courses. All other courses offered at MUHS are unweighted. Grades of "P" (Pass), Audit, and classes in progress are not used in calculating GPA. In the event that a class is retaken, the higher grade for the course will be used in computing GPA, however, the lower grade will continue to be noted on the transcript and credit for the course will be awarded only once.

Letter grades from all courses, grades 9 through 12 will be used to calculate a student's GPA. A score of NY (Not Yet), from MYP classes, will be considered a zero for GPA calculations since it translates to Not Proficient.

GPA is computed on a 4.0 point scale for unweighted classes at the end of each semester. Numerical value for letter grades is awarded as follows:

A+ = 4.0	B+ = 3.3	C+ = 2.3	D+ = 1.3	F = 0
A = 4.0	B = 3.0	C = 2.0	D = 1.0	
A- = 3.7	B- = 2.7	C- = 1.7	D- = 0.7	

The numerical value for weighted classes (completed DP Higher Level, college, AP courses) is as follows:

A+ = 4.3	B+ = 3.6	C+ = 2.6	D+ = 1.6	F = 0
A = 4.3	B = 3.3	C = 2.3	D = 1.3	
A- = 4.0	B- = 3.0	C- = 2.0	D- = 1.0	

Rank

Student rank is reported in a decile distribution (i.e. top 10%, top 20%, etc.) at the end of grade 11.

The Latin System of Student Recognition at Graduation

MUHS uses the Latin System of Student Recognition at graduation. Under this system, students who achieve a cumulative GPA equal to or above a 4.00 receive the designation Summa Cum Laude. Students with a GPA from 3.75 to 3.99 qualify for Magna Cum Laude. Students with a GPA from 3.50 to 3.74 will be designated Cum Laude.

Required Course Load

Students at MUHS are required to carry a **minimum of seven** academic credits per year. Students are encouraged to consider a challenging academic course load to be fully prepared for further education or the world of work.

Course Changes

Before students select courses for next year, they should carefully discuss their options with their teachers, advisors, school counselor, and parents/guardians. Students are not able to change courses except for sound educational reasons. **Students will have until October 1st to drop a course**; there will be no record of the course on a student's transcript. Administrative approval is needed for dropping a class beyond this deadline.

Within the first four weeks of a full year course it may be possible to add a course. Additions are dependent on space availability in the course and whether the addition is academically feasible. Students may be expected to make up all missed work in added courses.

Pass/Fail/Audit Options

Students may apply to take a class on a Pass/Fail or Audit basis provided that the course is not needed to fulfill graduation requirements. Students must get approval from the School Counseling and Administrative Team, as this request is for extenuating circumstances only.

The grades “P/F” (for Pass/Fail), and “AUD” (for Audit) are used for courses taken on a Pass/Fail or Audit basis. Applications to take a course on a Pass/Fail or Audit basis are available in the Guidance Office and must be completed before the mid-point of the course. The one exception for the Pass/Fail reporting system is Driver Education; this course is Pass/Fail for everyone. Neither Pass/Fail nor Audit courses are computed in determining GPA.

National Collegiate Athletic Association (NCAA)

The NCAA Eligibility Center certifies the initial academic eligibility and amateur status of all college-bound student-athletes who wish to compete in Division I or II collegiate athletics. Prospective Division I or II athletes must complete NCAA Eligibility Center (<https://web3.ncaa.org/hportal/exec/loginAction>) online, prior to beginning grade 12. Prospective Division I or II athletes should also consult with their school counselor early in their high school career to ensure proper course selection.

By going to the website listed above you can check out a complete list of Middlebury Union High School’s approved NCAA courses. Reminder, our CEEB/ACT Code is 460240.

Additional information can be found at <http://www.ncaa.org/student-athletes/future>.

CURRICULUM INFORMATION

Language & Literature

Four credits in Language & Literature are required for graduation. Embracing the International Baccalaureate (IB) Program, the MUHS Language and Literature program encourages and enables students to use language as a vehicle for learning, creativity, and reflection; develop critical and personal approaches to studying and analyzing literary and non-literary works; explore and consider varied personal and cultural perspectives; examine language in a variety of media and modes; and apply linguistic and literary concepts and skills in a variety of relevant contexts.

Each student must enroll in the 100-level course (MYP Year 4 Language & Literature) and the 200-level (MYP Year 5 Language & Literature) course during their first two years at MUHS. Aligned to the IB Middle Years Program, these courses are built around key concepts designed to bridge multiple disciplines and are grounded in global contexts to ensure learning is personally relevant and engaging. Both the 100 and 200 level courses offer a broad study of literature and are complemented with an intense focus on student composition. Students' shared experiences in the MYP will allow all students at MUHS to draw from similar backgrounds, skills and a common language of study throughout the MYP, grade 11 and 12 courses and DP.

All Grade 11 and 12 students are required to complete **at least the first year of a DP course in either 11th or 12th grade.**

100: Fundamentals of Language and Literature MYP Year 4 (Grade 9) 1 Credit
Students in this course study novels, plays, short stories, and poems. Basic composition skills, including sentence structure, the paragraph, essays, vocabulary and usage, are integrated with the literature. Speech activities and study skills are emphasized.

200: Composition with Literature MYP Year 5 (Grade 10) 1 Credit
This course centers on the development of students' writing strategies by continuing the work of MYP 4. Students study literature to develop analytical abilities both in reading and writing. Students build skills in analyzing, organizing, producing text, and using language.

320: DP Literature (SL): Year 1 (Grade 11-12) 1 Credit
This course promotes the ability to form independent literary judgments and develops an understanding of the techniques involved in literary criticism. Over the course, the formal analysis of texts and wide coverage of a variety of literature—both in the language of the subject and in translated texts from other cultural domains—is combined with a study of the way literary conventions shape responses to texts.

Students completing this course will develop a thorough knowledge of a range of texts and an understanding of other cultural perspectives. They will also develop skills of analysis and the ability to support an argument in clearly expressed writing, sometimes at significant length.

321: DP Literature (HL): Year 1 (Grade 11-12) 1 Credit
This course will cover all of the topics covered in the Literature SL course, plus additional topics and required texts. The HL course moves faster, covers more content, and contains more DP assessments—the HL Essay (if taking the course for a certificate or DP diploma).

- 330: DP Language & Literature (SL): Year 1 (Grade 11-12)** 1 Credit
This course will aim to develop skills of textual analysis of both literary and non-literary texts from a variety of sources, genres, and media. A key aim of this course is to encourage students to question the meaning generated by language and texts, which, it can be argued, is rarely straightforward.
- 331: DP Language & Literature (HL): Year 1 (Grade 11-12)** 1 Credit
This course will cover all of the topics covered in the Language and Literature SL course, but will also include additional topics and students will be required to read additional texts. The HL course moves faster, covers more content, and contains more DP assessments.
- 420: DP Literature (SL): Year 2 (Grade 12)** 1 Credit
This course builds on all of the aspects of Year 1 with special attention paid to the DP assessments: the Oral Commentary, Paper 1, and Paper 2. Prerequisite: Successful completion of DP Literature (SL or HL): Year 1.
- 421: DP Literature (HL): Year 2 (Grade 12)** 1 Credit
This course builds on all of the aspects of Year 1 with special attention paid to the DP assessments: the Oral Commentary, Paper 1, Paper 2, and the HL Essay. Prerequisite: Successful completion of DP Literature (HL): Year 1.
- 430: DP Language & Literature (SL): Year 2 (Grade 12)** 1 Credit
This course builds on all of the aspects of Year 1 with special attention paid to the DP assessments: the Oral Commentary, Paper 1, and Paper 2. Prerequisite: Successful completion of DP Language and Literature (SL or HL): Year 1.
- 431: DP Language & Literature (HL): Year 2 (Grade 12)** 1 Credit
This course builds on all of the aspects of Year 1 with special attention paid to the DP assessments: the Oral Commentary, Paper 1, Paper 2, and the HL Essay. Prerequisite: Successful completion of DP Language and Literature (HL): Year 1.
- 440: Memoir (Grade 11-12)** 1 Credit
Memoir focuses on the study and sharing of personal stories through reading, writing, viewing, and discussion. Students contemplate moments and memories and their impact on and relation to truth and identity. They explore the genre of memoir through reflective, narrative, analytical writing, as well as through film and oral storytelling. In this course, students read several published memoirs and personal essays of varying styles, perspectives, and content.
- 445: Graphic Narrative (Grade 11-12)** 1 Credit
This course explores illustrated storytelling. Students will read a variety of genres and formats to learn literary conventions, and examine the author's creative choices and their effectiveness. They will also apply their understanding by creating their own graphic narratives after learning the storyboarding process, which includes the study of composition, angle and focus, movement within a frame, the use of color, etc. Critical reading and writing skills are developed. Film and other media are complements to the curriculum.

470: Creative Writing (Grade 11-12)

1 Credit

Creative Writing is for the writer who is willing to write in a collaborative workshop environment with peer and teacher conferences. The curriculum centers on student experimentation and free expression in creative nonfiction, short stories and long-form prose, playwriting, and poetry & performance. The course will consider a range of media and genres, including literary fiction, nonfiction, drama, graphic narratives, and poems. Students will also analyze and apply artistic and literary elements of graphic narratives— illustration, layout, design, plot structure, voice, figurative devices, etc. Through a series of writing projects and workshops, students will try their hand at numerous genres, considering the unique and important aspects of each. Students are expected to collect a portfolio of work and to share their work with their peers.

485: Critical Studies in Cinema (Grade 11-12)

1 Credit

Critical Studies in Cinema gives students a great deal of practice in critically watching, reading about, and writing about film. By looking at film as a text to be studied and interpreted, students will consider elements such as setting and cinematography, narrative strategy and point of view, character development, dialogue, and pacing. Thematically, students will learn how to apply a different critical lenses to film by studying theories such as race, gender, class, and psychoanalytic, among others. Additionally, students will be instructed on technical aspects (camera angle, blocking, mise en scene, focus, etc.) of film. This course will also expose students to a variety of genres and eras, and situate the films in their historical context.

Language Acquisition

To meet MUHS graduation requirements, current students must successfully complete one year of a language. In our Language Acquisition courses, we are shifting toward an inquiry-based model that is based on real-world authentic tasks. As part of the MYP program, we develop the cultural competence of our students and reflect on what it means to be an internationally-minded person. This means providing them with strong communication skills and exposing them to varied perspectives in this world. We will continue to work on developing all of the modes of communication (interpersonal, interpretive and presentational), and will follow the World-Readiness Standards for Learning Languages, established by the American Council on Teaching Foreign Languages (ACTFL). Our rigorous and engaging language program will develop students' language proficiency, international mindedness, and ensure that students are prepared for the Diploma Program (grades 11&12).

MYP divides language development into three proficiency levels: Emergent, Capable, Proficient. The level defines the progression of the understanding of language as students develop skills in fluency, understanding, and articulation. Emergent begins in 7th grade and runs through 8th grade. 9th grade students should enroll in MYP Year 4 language when they arrive at MUHS (unless they need to repeat level 1 from MUMS). Students who complete an MYP Year 4 language as a 9th grader, then MYP Year 5 as a 10th grader will be prepared to begin a DP Language B course as an 11th grader. Students must complete French 3/Spanish 3/Latin 2 before they enroll in a DP language in 11th grade.

Classical Language - Latin

100: Latin 1 - MYP Year 3/4

1 Credit

Mythology, history, culture and language are all explored in this beginning course designed as an introduction to the ancient Romans and their language. Emphasis is placed on acquiring the skills needed to read elementary Latin texts and on basic Latin conversational skills. The influence of Roman civilization on modern society is examined through a study of Roman mythology, culture, history, art and archeology. Southern Italy and the city of Pompeii are heavily featured in geography. In addition, students expand their English vocabulary through a study of Latin root words.

200: Latin 2 - MYP Year 5

1 Credit

In Latin 2, students review the basic language principles studied in Latin 1 and master language skills not studied previously. Emphasis is placed on acquiring the skills needed to read intermediate Latin texts and further translation skills. Further study of Roman military, civilization, culture and religion through an examination of adapted readings in Latin, increases the students' awareness of the debt of western civilization to ancient Greece and Rome. Roman settlements of Greece, Egypt and Britain are heavily featured in geography. Students continue to develop their English vocabulary through a study of Latin roots. Prerequisite: Demonstrated proficiency in Latin 1.

320: DP Classical Language - Latin (SL): Year 1 (Grades 11-12)

1 Credit

Students in this course will study an historically significant language that is also embedded in many modern languages. The study of Latin as a classical language provides an opportunity for students to explore the language, literature and culture of ancient Rome. The study of classical languages gives important insights into the cultures that produced them, and therefore, leads to a greater understanding of contemporary languages, literature, and cultures. In DP Latin students complete their study of Latin grammar through authentic reading of Ovid's *Metamorphoses*. Through this course, students will continue to translate Latin works in context, examining the ideas in these works and their artistry within their historical, political and cultural contexts. Prerequisite: Demonstrated proficiency in Latin 2.

420: DP Classical Language - Latin (SL): Year 2 (Grade 12)

1 Credit

DP Year 2 is a logical continuation of Year 1. Students spend the majority of DP year two studying two topics of Classical literature and/or culture in depth. Focus is on artistic and stylistic choices within the texts and tying them to broader themes. Students culminate the course by completing internal and external IB assessments.

French:**100: French 1 - MYP Year 4**

1 Credit

At the high school, this course is only for students who need to repeat French from MUMS (or moved into the district without previous language experience). Students begin their path to proficiency in this introductory French course. Students will use French to communicate on a variety of novice level topics including introducing themselves, talking about their free time activities, school life, making plans with friends, discussing families, their home, and their larger community. Students begin to explore the cultures of France and francophone countries, by examining and analyzing the products, practices and perspectives from these communities. Students will also explore the reasons for learning a second language and strategies for success when learning a new language.

200: French 2 - MYP Year 4

1 Credit

Students interested in the DP Program should be enrolled in this course in 9th grade (upon successful completion of French 1 at MUMS). Students continue to develop their communicative proficiency in this introductory French course. Students will use French to communicate on a variety of novice level topics including introducing themselves, talking about their fashion choices, describing their routines, making plans with friends, discussing families, their home, and their environment around them (agricultural life). They will be able to look at travel, food, shopping, and celebrations in the French speaking world. Students can learn to talk about activities in the past tense. Students describe and compare, provide and obtain specific information, express their likes and dislikes and learn to express their needs. Students begin to explore the cultures of France and francophone countries, by examining and analyzing the products, practices and perspectives from these communities. Students will also explore the reasons for learning a second language and strategies for success when learning a new language. Prerequisite: Demonstrated proficiency in French 1

300: French 3 - MYP Year 5

1 Credit

This is a pivotal year of study for students on the road to language acquisition and communication. Students continue their path to proficiency in this intermediary French course. Students will use French to communicate about a variety of everyday situations such as inviting a friend, discussing household responsibilities, talking about daily routines in the past, reading children's fairy tales, expressing opinions, etc. These conversational topics can now be expressed in appropriate tenses (present, past, future). Students continue to explore the cultures of France and francophone countries, by examining and analyzing the products, practices and perspectives from these communities. In addition, students are introduced to longer reading passages as well as poetry, short stories, and film as a way to study history and culture. Short compositions will also be written on given topics. Students will explore the reasons for learning a second language and strategies for success when learning a new language. Prerequisite: Demonstrated proficiency in French 2

320: DP French (SL): Year 1 (Grade 11-12)

1 Credit

In this course, students develop proficiency in the target language through the study of language and culture. In doing so, they develop conceptual understandings of how language works and intercultural understanding. Communication is evidenced through receptive, productive and interactive skills across a range of contexts and purposes that are appropriate to the level of the course. In this course, students will build upon the grammatical foundations of the previous levels while exploring deeper linguistic and cultural themes of global importance. Students will explore modern and historical issues, such as revolution and war, access to education, art, environmental and physical health, and immigration, within a global context.

Students expand the range of their communication skills by understanding and producing a wide variety of oral and written texts for audiences, contexts and purposes associated with academic and personal interests. For the development of receptive skills, students must study authentic texts that explore the cultures of the target language. Prerequisite: Demonstrated proficiency in French 3

321: DP French (HL): Year 1 (Grade 11-12)

1 Credit

This class covers the same topics as the SL class but extends beyond the SL topics as well. The DP requirements in this class are more rigorous than in the SL class. One difference is that students are required to study two literary works at the HL level. Prerequisite: Demonstrated proficiency in French 3

420: DP French (SL): Year 2 (Grade 12)

1 Credit

Year 2 is a continuation of the content of Year 1 (please see course description above) and includes themes of World War 2, Immigration, and Globalization. For those seeking the IB certificate or diploma, Year 2 also includes preparation for the internal and external exams. Prerequisite: Demonstrated proficiency in DP SL Year 1

421: DP French (HL): Year 2 (Grade 12)

1 Credit

Year 2 is a continuation of the content of Year 1 (please see course description above). For those seeking the IB certificate or diploma, Year 2 also includes preparation for the internal and external exams. Prerequisite: Demonstrated proficiency in DP HL Year 1

Spanish:**100: Spanish 1 - MYP Year 4**

1 Credit

At the high school, this course is only for students who need to repeat Spanish from MUMS (or moved into the district without previous language experience). In this first year introductory course, students learn to express themselves in Spanish using basic structures and vocabulary in units organized around everyday themes (i.e. Who I Am and My School, Pastimes and Favorite Activities, Cities and Towns, etc.) with a cultural content. Proficiency at this level is attained by developing the modes of communication (interpersonal, presentational and interpretive) within the thematic contexts. In addition, there is a strong focus on language connections and comparisons in order to interact with cultural competence and to become a lifelong language learner. It is expected that students will attain a novice proficiency level at the end of the course.

200: Spanish 2 - MYP Year 4

1 Credit

Students interested in the DP Program should be enrolled in this course in 9th grade (upon successful completion of Spanish 1 at MUMS). Students continue to expand their arena of conversation to include animals/farm, daily routines, childhood, geography, food, cities and towns, clothing, shopping, stores, transportation, and travel. Students can talk about their daily routines and learn to talk about past activities. Students can describe and compare, provide and obtain specific information, express likes and dislikes and express needs. Students can listen to or read and understand, write or tell a simple story in the past tense. Proficiency at this level is attained by developing the modes of communication (interpersonal, presentational and interpretive) within the thematic contexts. In addition, there is a strong focus on language connections and comparisons in order to interact with cultural competence and to become a lifelong language learner. It is expected that students will attain a novice mid/high proficiency level at the end of the course. Prerequisite: Demonstrated proficiency in Spanish 1.

201: Spanish 2 - MYP Year 5s

1 Credit

Students continue to expand their arena of conversation to include family traditions and/or future dreams and aspirations, animals, daily routines, childhood, food and market, and travel. Students can talk about their daily routines and learn to talk about past activities. Students can describe and compare, provide and obtain specific information, express likes and dislikes and express needs. Students can listen to or read and understand, write or tell a simple story. Proficiency at this level is attained by developing the modes of communication (interpersonal, presentational and interpretive) within the thematic contexts. There is a strong focus on communication and cultural competence. It is expected that students will attain a novice (IB: emergent) proficiency level at the end of the course. Prerequisite: Demonstrated proficiency in Spanish 1

300: Spanish 3 - MYP Year 5

1 Credit

This is a pivotal year of study for students on the road to language acquisition and communication. Development of the modes of communication (interpersonal, presentational and interpretive) continues within the thematic contexts. Students are expected to be able to express themselves in simple contexts in the past, present and future tenses. In addition, Spanish 3 introduces students to the most common uses of the subjunctive and its forms. Much new vocabulary is acquired as students talk about themselves and others, daily routines, household chores, transportation, food and other everyday topics. Short reading selections and authentic literature samples are used to introduce or reinforce vocabulary and grammar structures as well as for their cultural and historical relevance. Prerequisite: Demonstrated proficiency in Spanish 2.

310: DP Spanish Ab initio (SL): Year 1 (Grades 11-12)

1 Credit

Language Ab initio is a language acquisition course designed for students with little or no prior experience of the target language. In this course students will develop basic language proficiency and intercultural understanding. The course is organized into three themes: individual and society, leisure and work, and urban and rural environment. At the Ab initio level, students will develop receptive, productive and interactive communication skills. Students learn to communicate in the target language in familiar and unfamiliar contexts. Students expand the range of their communication skills by understanding and producing a wide variety of oral and written texts for audiences, contexts and purposes associated with academic and personal interests.

320: DP Spanish (SL): Year 1 (Grade 11-12)

1 Credit

In this course, students develop proficiency in the target language through the study of language and culture. In doing so, they develop conceptual understandings of how language works and intercultural understanding. Communication is evidenced through receptive, productive and interactive skills across a range of contexts and purposes that are appropriate to the level of the course. In this course, students will build upon the grammatical foundations of the previous levels while exploring deeper linguistic and cultural themes of global importance. Students will explore modern and historical topics, such as identity, revolution and war, access to education, art, environmental and physical health, and immigration, within a global context.

Students expand the range of their communication skills by understanding and producing a wide variety of oral and written texts for audiences, contexts and purposes associated with academic and personal interests. For the development of receptive skills, students must study authentic texts that explore the cultures of the target language. Prerequisite: Demonstrated proficiency in Spanish 3

321: DP Spanish (HL): Year 1 (Grade 11-12)

1 Credit

HL Spanish covers similar topics as SL but in more depth. The DP requirements in this class are more rigorous than in the SL class. HL students also study two literary works.

410: DP Spanish Ab initio (SL): Year 2 (Grade 12)

1 Credit

This course is a logical continuation of Ab initio (SL) Year 1. Please see course description above. For those seeking the IB certificate or diploma, Year 2 also includes preparation for the internal and external exams. Prerequisite: Demonstrated proficiency in DP SL Year 1

420: DP Spanish (SL): Year 2 (Grade 12)

1 Credit

Year 2 is a continuation of the content of Year 1 (please see course description above). For those seeking the IB certificate or diploma, Year 2 also includes preparation for the internal and external exams.

Prerequisite: Demonstrated proficiency in DP SL Year 1

421: DP Spanish (HL): Year 2 (Grade 12)

1 Credit

Year 2 is a continuation of the content of Year 1 (please see course description above). For those seeking the IB certificate or diploma, Year 2 also includes preparation for the internal and external exams.

Prerequisite: Demonstrated proficiency in DP HL Year 1

Individuals and Societies

Students are required to successfully complete three credits in Individuals and Societies to be eligible for graduation.

Individuals and Societies at Middlebury Union High School focuses on developing the student as a person, a scholar, and a citizen of the world. Embracing the mission of the International Baccalaureate, courses in Individuals and Societies are designed to encourage inquiry, engagement, and reflection on the part of the learner. These are skills that can be transferred across disciplines and context, while at the same time exploring important social studies factual content.

All 9th and 10th graders must complete the MYP Year 4 and Year 5 courses. Grade 11 and 12 students may select the first year of one of the five DP offerings, or one of the two Midd Core offerings.

100: Roots of the Modern World - MYP Year 4 (Grade 9) 1 Credit

An International Baccalaureate Middle Years Program (MYP) course, *Roots of the Modern World* uses a thematic approach in exploring history, allowing for substantial connections to be made between historical events and the world today. The course will explore themes including: the relationship between people and the land; ideologies and the tension between the rights of the individual and the well-being of the whole; the development of understandings of class, race, and gender; and the impact of economic change on society. *Roots of the Modern World* is designed to develop the student in a holistic manner by emphasizing transferable skills that will be of use in other areas of academics and beyond. Throughout the course, students will be asked to deeply engage in their own education as inquirers and problem-solvers, and reflect upon their process and growth as they do so.

200: The Modern Era - MYP Year 5 (Grade 10) 1 Credit

In this course, students will thematically explore the development of our modern society. An International Baccalaureate Middle Years Program (MYP) course, students will make substantial connections between historical events and the world today. The course will explore themes including: the roles of systems, especially political and economic, in shaping global events; civil rights and societal changes in multiple contexts; economic developments in the contemporary world; the roots and nature of ideological and religious conflict in the 20th Century; and impacts of growth in technology, production and consumption. This course is designed to promote student development in a holistic manner by emphasizing transferable skills that will be of use beyond the classroom, as well as promoting reflection and active learning.

300: Topics in Social Studies (Grade 11-12) 1 Credit

This course explores the events and realities of the world today through the lens of various approaches to the Social Studies. Students will engage in learning activities that ask them to analyze and understand the world around them by exploring several of the following potential foci: economics, anthropology, gender studies, psychology, law and legal systems, and political science. The topics and social studies lenses will shift from year-to-year; skills that students will be developing and the focus on the modern world will be consistent. Students will develop skills in analysis and critical thinking, research, reflection, communication, argumentation, and collaboration, among others.

305: World History to 1500 (Grade 11-12)

1 Credit

This course explores world history up to 1500 CE. It includes global and comparative studies in exploring the roots of the modern world. Particular attention will be paid to the world's major monotheisms and their impacts on history, the development and transformation of empires, the growth of economic and political systems that shaped the modern world, and the creation of new technologies and ideologies throughout the period. Students will develop skills in historical thinking, comparative analysis, communication, critical thinking, geographic understanding, citizenship, and economic thinking.

320: DP Global Politics (SL): Year 1 (Grade 11-12)

1 Credit

This course explores fundamental political concepts such as power, equality, sustainability and peace in a range of contexts. It allows students to develop an understanding of the local, national, international and global dimensions of political activity and processes, as well as to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real-world examples and case studies. It also invites comparison between such examples and case studies to ensure a wider and transnational perspective. Prerequisite: Scoring a minimum of a 5 in all 4 MYP criteria is an indication that students are prepared for the expectations of this course.

The foundational unit of the course, which will comprise the first semester, explores the concepts of power, sovereignty, legitimacy, and interdependence through both theoretical and practical, real world lenses. Current events and student interest will influence which of the three remaining units--human rights, development, or peace and conflict--is explored during the second semester. Also in the second semester, students begin a political engagement activity (due in the fall of their senior year) which requires research, active engagement, and reflection on a political issue. The engagement activity is a DP internal assessment.

321: DP Global Politics (HL): Year 1 (Grade 11-12)

1 Credit

This course covers the same topics as Global Politics SL Year 1. However, in the second semester, HL students will begin exploring global challenges and potential case studies in preparation for the HL extension, research culminating in two 10-minute oral presentations. Prerequisite: Scoring a minimum of a 5 in all 4 MYP criteria is an indication that students are prepared for the expectations of this course.

330: DP History (SL): Year 1 (Grade 11-12)

1 Credit

This course is the first of a two-year world history course based on a comparative and multi-perspective approach to history. It studies a variety of types of history, including political, economic, social, and cultural. Year 1 topics of study include the Authoritarian States of Adolf Hitler and Joseph Stalin, as well as the Cold War: Superpower tensions and rivalries. Students of DP History develop critical thinking skills and an understanding of multiple interpretations of history. In this way, the course involves a challenging and demanding critical exploration of the past. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources. There are six key concepts that have particular prominence throughout the DP history course: change, continuity, causation, consequence, significance, and perspectives. These skills and content help prepare students for the two International Baccalaureate External Assessments, Paper 1 and Paper 2, which students sit for at the end of the second year of the class. This course also includes an independent research paper required by the IB Program called the Internal Assessment. Students will begin preparation for this assessment in the second semester of the course. Prerequisite: Scoring a minimum of a 5 in all 4 MYP criteria is an indication that students are prepared for the expectations of this course.

331: DP History (HL:) Year 1 (Grade 11-12)

1 Credit

This course includes all of the topics from SL History Year 1 as well as the HL option History of the Americas. The History of the Americas units include the Second World War in the Americas, including the struggle between isolationism and interventionism in the U.S., Canada's role in World War II, the impact of the war on women and minorities, Japanese internment, and the decision to drop the atomic bomb; and the Cold War in the Americas, including the Korean War and the Cold War at home. The pace of this course moves faster, and covers more topics than SL History and includes one more external assessment. Prerequisite: Scoring a minimum of a 5 in all 4 MYP criteria is an indication that students are prepared for the expectations of this course.

360: DP Environmental Systems and Societies (SL): Year 1 (Grades 11-12)

1 Credit

Environmental Systems and Societies (ESS) is an interdisciplinary course that is offered only at standard level (SL). As an interdisciplinary course, ESS is designed to combine the methodology, techniques and knowledge associated with the Sciences with those associated with Individuals and Societies. Because it is an interdisciplinary course, students can study ESS and have it count as either a science credit or an Individuals and Societies credit (or as both, by splitting the credits between the two years). If students choose to have this course count as an Individuals & Societies credit, they can then take an additional science course for their science credit.

ESS is a complex course, requiring a diverse set of skills from its students. It is firmly grounded in both a scientific exploration of environmental systems, their structure and function, and the exploration of cultural, economic, ethical, political, and social interactions of societies with the environment. The interdisciplinary nature of the course requires a broad skill set from students and includes the ability to perform research and investigations and to participate in philosophical discussions. Topics for the first year of the course include: ecosystems, biodiversity, water use, and aquatic food production.

420: DP Global Politics (SL): Year 2 (Grade 12)

1 Credit

In DP Global Politics Year 2, students will continue to explore fundamental political concepts such as power, equality, sustainability, and peace in a range of contexts. It allows students to develop an understanding of the local, national, international, and global dimensions of political activity and processes, as well as to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real-world examples and case studies. It also invites comparison between such examples and case studies to ensure a wider and transnational perspective.

The core units of the course together make up a central unifying theme of “people, power and politics.” The emphasis on “people” reflects the fact that the course explores politics not only at a state level but also explores the function and impact of non-state actors, communities, groups, and individuals. The concept of “power” is also emphasized as being particularly crucial to understanding the dynamics, tensions and outcomes of global politics. Throughout the course, issues such as conflict, migration or climate change are explored through an explicitly political lens: “politics” provide a uniquely rich context in which to explore the relationship between people and power.

Coursework in Year 2 will include work on an engagement activity (the internal assessment for the course) and emphasize preparation for the external assessments in May.

421: DP Global Politics (HL): Year 2 (Grade 12)

1 Credit

This course covers the same topics as Global Politics SL Year 2. However, students will also study two global political challenges at length, culminating in two 10-minute oral presentations (the HL extension.) Students will research a specific example (a case study) from the general global political challenges that follow: environment, poverty, health, identity, borders, or security.

430: DP History (SL): Year 2 (Grade 12)

1 Credit

This course is the second year of a world history course based on a comparative and multi-perspective approach to history. It continues the study of a variety of types of history, including political, economic, social, and cultural. Year 2 topics of study include two Case Studies on Conflict and Intervention: Kosovo and Rwanda; Authoritarian States: Pol Pot and Cambodia; and the Cold War: Superpower tensions and rivalries. Students of DP History develop critical thinking skills and an understanding of multiple interpretations of history. In this way, the course involves a challenging and demanding critical exploration of the past. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources. There are six key concepts that have particular prominence throughout the DP history course: change, continuity, causation, consequence, significance, and perspectives. This course also finalizes and submits an independent research paper required by the IB Program called the Internal Assessment. At the end of the year, students may choose to sit for the two IB External Assessments, Paper 1 and Paper 2.

431: DP History (HL): Year 2 (Grade 12)

1 Credit

This course covers the same second-year content as SL history as well as the HL option History of the Americas. The History of the Americas topics continue the study of the Cold War in the Americas including the U.S. involvement in Asia and Latin America; and Civil Rights and Social Movements in the Americas post 1945 including rights movements of African Americans, women, indigenous people, and Latinx Americans. Students will complete the Internal Assessment and may choose at the end of the year to sit for the three IB External Assessments, Papers 1 and 2 which are part of the standard curriculum and Paper 3 which is part of the HL option.

460: DP Environmental Systems and Societies (SL): Year 2 (Grades 12)

1 Credit

In the second year of this course, students explore more of the human impacts on our environment. Topics for the second year of this course include: soil systems, atmospheric systems, climate change, energy production, and human resource use, along with an overview/review of the course prior to the external exam. It is the expectation that all students taking ESS Year 2 will complete an Internal Assessment. Students must successfully complete Year 1 of this course before entering Year 2.

Additional opportunities to earn Individuals and Societies credit may be available in courses offered at the Hannaford Career Center (HCC). See HCC course offerings at the end of this catalog or visit the website <http://www.hannafordcareercenter.org/>.

Sciences

Students are required to successfully complete three credits in science to be eligible for graduation. At least two credits must be earned through MUHS Science offerings.

All students must demonstrate proficiency in the MYP criteria before enrolling in DP courses. All 9th grade students take the 100 level course (MYP Year 4) Earth Systems and Physics. In 10th grade, students take the 200 level course (MYP Year 5) Biology and Chemistry.

Grade 11 and 12 students may choose to enroll in one of the DP offerings or one of the Midd Core Science classes. The DP science offerings include Biology, Chemistry, Environmental Systems and Society, and Physics. The Midd Core science offerings include Plant and Wildlife Biology as well as Technical Design and Build.

100: Earth Systems and Physics - MYP Year 4 (Grade 9) 1 Credit

This course explores the origins and connections between physical and geological processes of the Earth system. Students will develop their skills in experimental design, data collection and analysis, and scientific communication. The curriculum supports learning through inquiry-based laboratory investigations. The content is aligned with the Next Generation Science Standards (NGSS). The earth science curriculum includes geology, plate tectonics, and astronomy. The physical science curriculum includes gravity, forces, motion, heat transfer, radioactive decay, and optics. This course provides the knowledge, skills, and habits of mind needed for problem-solving and ethical decision making in the 21st Century.

200: Biology and Chemistry - MYP Year 5 (Grade 10) 1 Credit

Students in Biology and Chemistry will learn key concepts in chemistry and biology. Students will also build upon previous skills in experimental design, data collection and analysis, and scientific communication. The content is aligned with the Next Generation Science Standards (NGSS). Chemistry topics include types of matter, atomic structure, types of bonding, chemical nomenclature, and balancing chemical equations. Biology topics include biochemistry, cells, human body systems, genetics, and ecology. Prerequisite: Completing and earning credit in 100: Earth Systems and Physics (MYP Year 4).

310: DP Biology (SL): Year 1 (Grades 11-12) 1 Credit

This course provides students with in-depth knowledge about a broad-range of topics including cell biology, molecular biology, genetics and ecology. This in-depth knowledge is the foundation for essential understanding of broader relationships between structure and function; matter and energy; biological evolution; and the interdependence of organisms. The course focuses on developing students' communication, lab, and critical thinking skills.

311: DP Biology (HL): Year 1 (Grades 11-12) 1 Credit

This course provides students with in-depth knowledge about a broad range of topics and extends on the content in SL Biology to include cell biology, molecular biology, genetics, ecology, and plant biology. This in-depth knowledge is the foundation for essential understandings of broader relationships between commonality with diversity, form and function, interaction and interdependence and feedback for regulation. The course focuses on developing students' communication, lab, and critical thinking skills. The DP internal assessment begins at the end of the academic year.

320: Plant and Wildlife Biology (Grade 11-12)

1 Credit

This course examines a variety of local and global environmental issues facing our present and future generations. Students study ecological principles and engage in field work throughout the year as they investigate Vermont's soils, wildlife, forests, and aquatic systems. Students will look at environmental and sustainability issues through the lens of our food system and how it impacts the environment such as water and air pollution. As students learn about the food system and the associated environmental issues, they will be learning to grow their own food as well as grow food for the MUHS school cafeteria using the MUHS greenhouse. Research projects include a river study of the Otter Creek, Vermont Fish and Wildlife fur bearing project, and community based projects throughout the Middlebury area. Prerequisite: Successful completion of Earth Systems and Physics - MYP Year 4, and Biology and Chemistry - MYP Year 5 Science.

350: Technical Design and Build (Grade 11-12)

1 Credit Science or Design

Using the design and engineering loop as the theme of the course, students will be faced with hands-on, real world problems with a focus on designing and building projects. Science, technology, engineering, and math concepts (STEM) will be embedded in all of the units. Concepts such as reverse engineering, Newton's laws of motion, and simple machines will be covered. Students will pick an engineering design project that focuses on solving a problem in the community as their final summative assessment for this course. Prerequisite: Successful completion of Earth Systems and Physics - MYP Year 4, and Biology and Chemistry - MYP Year 5 Science.

360: DP Environmental Systems and Societies (SL): Year 1 (Grades 11-12)

1 Credit

Environmental Systems and Societies (ESS) is an interdisciplinary course that is offered only at standard level (SL). As an interdisciplinary course, ESS is designed to combine the methodology, techniques and knowledge associated with the Sciences and with those associated with Individuals and Societies. Topics for the first year of the course include: ecosystems, biodiversity, water use, and aquatic food production. Because it is an interdisciplinary course, students can study ESS and have it count as either a science credit or an Individuals and Societies credit (or as both, by splitting the credits between the two years). If students choose to have this course count as an Individuals & Societies credit, they can then take an additional science course, for their science credit. Prerequisite: Successful completion of Biology and Chemistry - MYP Year 5 Science.

370: DP Chemistry (SL): Year 1 (Grades 11-12)

1 Credit

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is often called the central science, as chemical principles underpin both the physical environment in which we live and all biological systems. DP Chemistry allows students to develop traditional practical skills and techniques and to increase understanding in the use of mathematics, which is the language of science. SL Chemistry includes a study of stoichiometric relationships, atomic structure, periodic trends, chemical bonding and structure and measurement and data processing. Full diploma candidates and certificate candidates must begin this course in grade 11 and complete both years. Prerequisite: Successful completion of Biology and Chemistry - MYP Year 5 Science.

381: DP Physics (HL): Year 1 (Grades 11-12)

1 Credit

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself from the very smallest particles-currently accepted as quarks, which may be truly fundamental-to the vast distances between galaxies. During this first year of the 2 year course of study, DP HL Physics topics include: measurements and uncertainties, mechanics, thermal physics, waves, and electromagnetism. Students will also study one of four options (relativity, engineering physics, imaging, or astrophysics) throughout the two year course.

410: DP Biology (SL): Year 2 (Grade 12) 1 Credit

This course is an extension of Year 1 DP Biology (SL). Topics covered include ecology, evolution and biodiversity, biology, and human physiology. The DP internal assessment occurs at the beginning of the academic year. Students will be given numerous class meetings to work on their independent investigations. Students must complete Year 1 of this course before beginning Year 2.

411: DP Biology (HL): Year 2 (Grades 12) 1 Credit

This course is an extension of Year 1 DP Biology (HL). Topics covered include ecology, evolution and biodiversity, human physiology, animal physiology and biochemistry. The DP internal assessment is finished in the beginning of the academic year. Students will be given numerous class meetings to work on their independent investigations. Students must complete Year 1 of this course before beginning Year 2.

460: DP Environmental Systems and Societies (SL): Year 2 (Grades 12) 1 Credit

In the second year of this course, students explore more of the human impacts on our environment. Topics for the second year of this course include: soil systems, atmospheric systems, climate change, energy production, and human resource use, along with an overview/review of the course prior to the external exam. It is the expectation that all students taking ESS Year 2 will complete an Internal Assessment. Students must successfully complete Year 1 of this course before entering Year 2.

470: DP Chemistry (SL): Year 2 (Grades 12) 1 Credit

This course is a continuation of Year 1 Chemistry (SL). Topics covered include thermochemistry, chemical kinetics, equilibrium, acids and bases, redox processes, and organic chemistry. The DP internal assessment occurs late in the academic year. Students will be given numerous class meetings to work on their independent investigations. Students must complete Year 1 of this course before beginning Year 2.

480: DP Physics (SL): Year 2 (Grades 12) (2022-2023 last year of course) 1 Credit

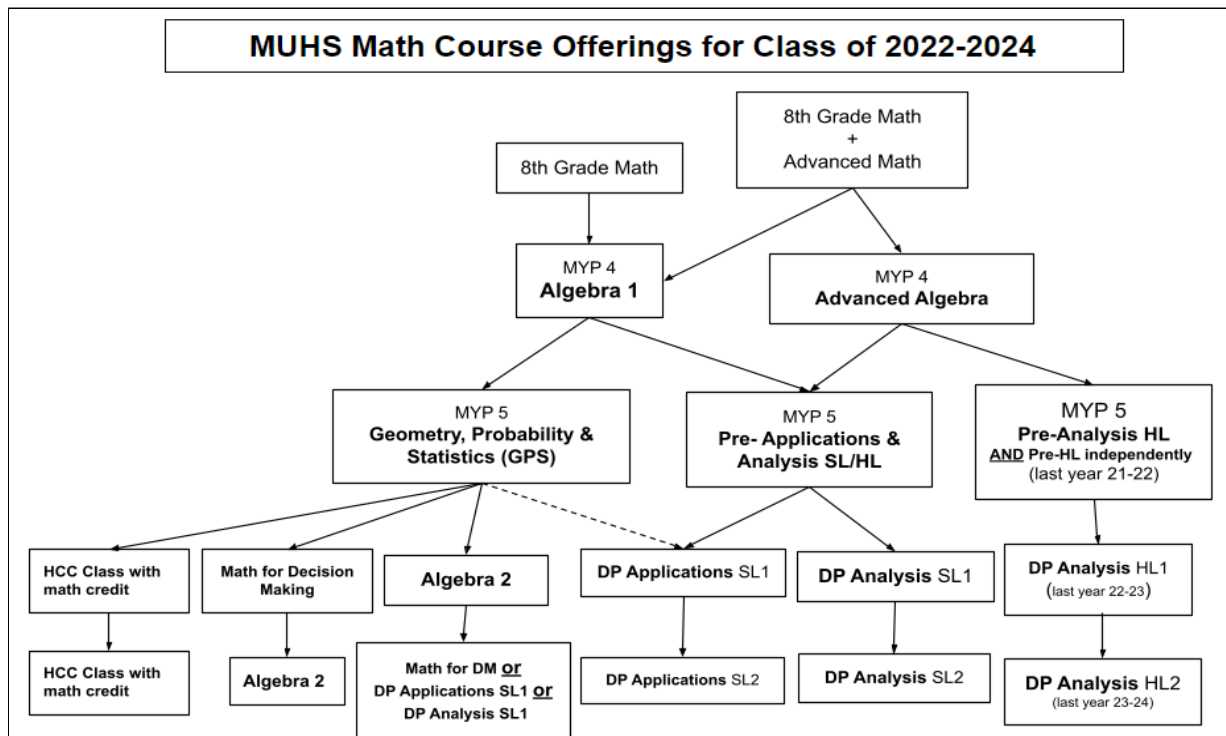
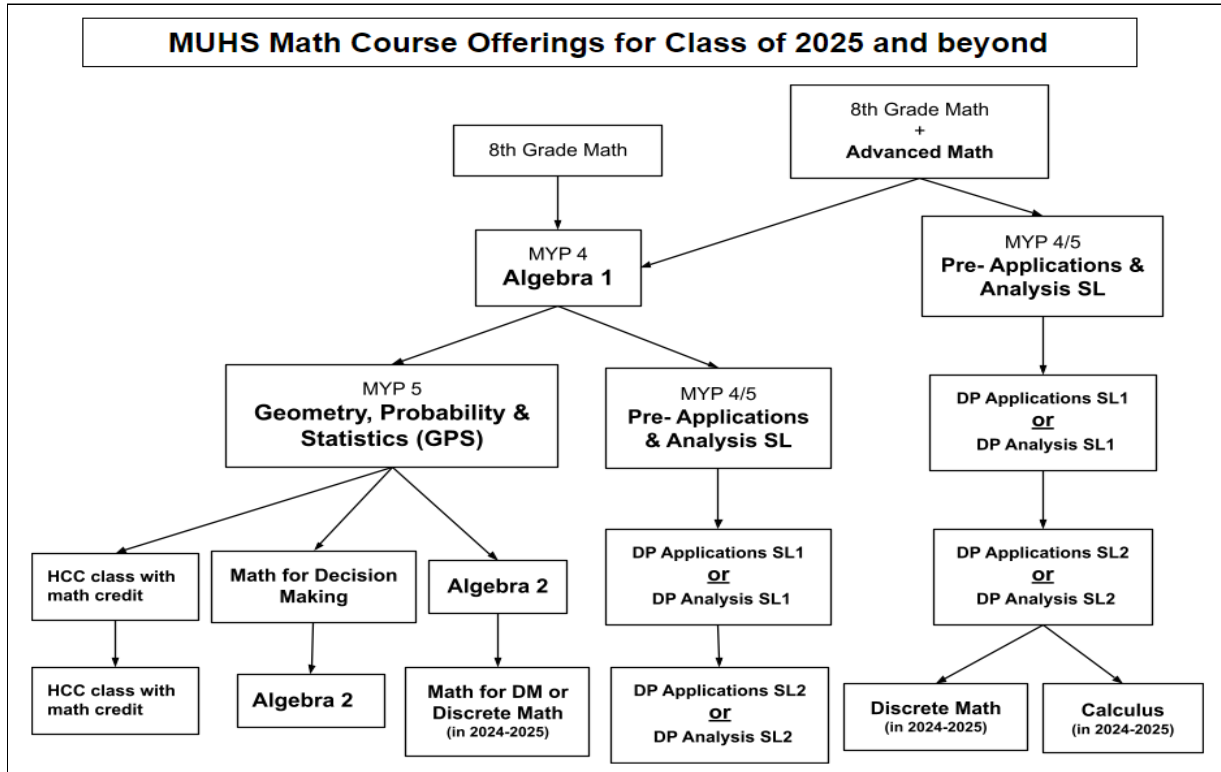
This is the second year of the DP Physics (SL) course of study. The topics for this second year include: electricity and magnetism, circular motion and gravitation, atomic, nuclear and particle physics, along with energy production. Students will also study one of four options (relativity, engineering physics, imaging, or astrophysics) throughout the course. A focus of the second year is preparing for, and completing, the internal assessment which is submitted to IB.

481: DP Physics (HL): Year 2 (Grades 12) 1 Credit

This is the second year of the DP (HL) Physics course of study. Topics include fields circular motion and gravitation, atomic, quantum physics, nuclear and particle physics, along with energy production into fields, electromagnetic induction, quantum and nuclear physics. This course will include more expectations for practice outside of class when HL specific topics are studied. A focus of the second year is preparing for, and completing, the internal assessment which is submitted to IB.

Additional opportunities to earn Science credit may be available in courses offered at the Hannaford Career Center (HCC). See HCC course offerings at the end of this catalog or visit the website <http://www.hannafordcareercenter.org/>.

Mathematics: The Math Department encourages all students to develop and gain confidence in their own mathematical problem-solving, communication and reasoning abilities. Three mathematics credits are required for graduation, and at least two credits must be earned through the MUHS Math Department. **The following overviews may help with long-term planning:**



110: MYP 4 Algebra 1 (Grade 9)

1 Credit

This course is part of the Middle Years International Baccalaureate Program designed to prepare students for Standard Level Diploma Program math courses. The topics for this course are aligned with the Common Core Standards for high school mathematics and include the following: linear and exponential functions, linear equations and inequalities, systems of linear equations, rules of exponents, and an introduction to quadratic equations.

215: MYP 5 Geometry, Probability, and Statistics (GPS) (Grade 10)

1 Credit

This course is part of the Middle Years International Baccalaureate Program, designed to prepare students for the Standard Level Diploma Program math courses. Mathematical concepts are developed through inquiry. The topics for this course are aligned with the Common Core Standards for high school mathematics and include the following: Deductive reasoning, coordinate geometry, properties of triangles, quadrilaterals & polygons, congruence and similarity, right triangle trigonometry, circles, surface area and volume, one & two variable statistics, Venn diagrams, set notation, and probability. Prerequisite: Completion of Math 110.

225: MYP 4/5 Pre-SL Applications and Analysis (Grade 9-10)

1 Credit

This course is part of the Middle Years International Baccalaureate Program, designed to prepare students for the Diploma Program Applications and Interpretations or Analysis and Approaches math courses. Mathematical concepts are developed through inquiry. The topics for this course are aligned with the Common Core Standards for high school mathematics and include the following: functions, quadratics and quadratic equations, exponents and exponential equations, logarithms and logarithmic functions, inequalities, and topics in geometry including similarity, Trigonometry, circles and volume and surface area. Prerequisite: Recommendation of Math 110 or Advanced Mathematics (8th grade) teacher.

300: Algebra 2 (Grade 10, 11-12)

1 Credit

This course is designed to prepare students for college mathematics. Topics include: families of functions (linear, absolute value, quadratic, radical, and piecewise), inverse functions, quadratic and quadratic equations, exponents, & exponential equations, logarithms, sequences and series, and compound interest. Prerequisite: Completion of Math 215 or Math 225.

306: Mathematics for Decision Making (Grade 11-12)

1 Credit

This course will develop mathematical decision-making skills in preparation for life after high school, with a focus on financial literacy. Financial topics include: savings, managing credit, paying for college, taxes, investing, and budgeting. As time permits, additional topics in the course may include: statistics, data analysis, discrete mathematics and probability. Prerequisite: Completion of Math 215 or Math 225.

310: DP Applications & Interpretation (SL): Year 1 (Grade 10-12)

1 Credit

This course is the first in a two year sequence. It is designed for students who enjoy describing the real world and solving practical problems using mathematics. In addition, it is for those students who are interested in using technology to explore mathematical models and enjoy the more practical side of mathematics. Topics include: geometry of solids, trigonometry applications, descriptive statistics, coordinate geometry, linear regression, and probability. Prerequisite: Successful completion of Math 225.

320: DP Analysis & Approaches (SL): Year 1 (Grade 10-12) 1 Credit

This course is the first in a two year sequence. It is intended for students who wish to pursue studies in mathematics at university or subjects that have a large mathematical content; it is for students who enjoy developing mathematical arguments, problem-solving and exploring real and abstract applications, with and without technology. Strong algebra skills are required. Topics included in the first year include: functions (linear, quadratic, rational, exponential, and logarithmic), sequences and series, geometry, trigonometry, and probability. Prerequisite: Recommendation of Math 225 teacher.

321: DP Analysis & Approaches (HL): Year 1 (Grade 11) (2022-2023 last year of course) 1 Credit

This course is the first in a two year sequence. It is intended for students who wish to pursue studies in mathematics in post-secondary studies, or subjects that have a large mathematical content; it is for students who enjoy developing mathematical arguments, problem-solving and exploring real and abstract applications, with and without technology. Students who take this course should have very strong algebra skills, be highly motivated and passionate about mathematics. Topics included in the first year include: functions (polynomial, rational, exponential, logarithmic and trigonometric), proof, trigonometric identities, differential calculus, and probability. Prerequisite: Successful completion of Math 226 and Pre-HL independent study course.

410: DP Applications & Interpretation (SL): Year 2 (Grade 11-12) 1 Credit

This course is the second in a two year sequence. It is designed for students who enjoy describing the real world and solving practical problems using mathematics. In addition, it is for those students who are interested in using technology to explore mathematical models and enjoy the more practical side of mathematics. Other topics include: Probability distributions and hypothesis testing, power functions, exponential and logarithmic functions, periodic functions including cyclical trigonometry, and an introduction to both differential and integral calculus. In addition, students will complete a mathematical exploration on a topic of their choosing. Prerequisite: Successful completion of Math 310.

420: DP Analysis & Approaches (SL): Year 2 (Grade 11-12) 1 Credit

This course is the second in a two year sequence. It is intended for students who wish to pursue studies in mathematics at university or subjects that have a large mathematical content. Topics included in the second year include: statistics, differential & integral calculus and probability distributions. In addition, students will complete a mathematical exploration on a topic of their choosing. Prerequisite: Successful completion of Math 320 or Math 321.

421: DP Analysis & Approaches (HL): Year 2 (Grade 12) (2023-2024 last year of course) 1 Credit

This course is the second in a two year sequence. It is intended for students who wish to pursue studies in mathematics in post-secondary studies, or subjects that have a large mathematical content. Students who take this course should have very strong algebra skills, be highly motivated and passionate about mathematics. Topics include: statistics, complex numbers, vectors, differential calculus, integral calculus, and probability distributions. In addition, students will complete a mathematical exploration on a topic of their choosing. Prerequisite: Successful completion of Math 321

The Arts

Two credits of Art and/or Design are required to earn an MUHS diploma. The Arts consist of both Music (instrumental and vocal) and Visual Art.

Music

Music functions as a means of personal and communal identity and expression, and embodies the social and cultural values of individuals and communities. Through the study of music, students learn to hear relationships of pitch in sound, pattern in rhythm and unfolding sonic structures. Through participating in the study of music, students are able to explore the similarities, differences and links in music from within our own culture and that of others across time.

The MUHS Music Department believes that music builds well-rounded individuals and enhances skills such as communication, empathy, and appreciation for humanity. Music connects us through emotion, community, and shared goals. Music teaches spatial learning, ability to reason, critical thinking, cooperation, goal-setting, history, creativity, problem-solving, and communication skills.

Performance-based music courses (instrumental and vocal) are considered to be one year in length, however, students are encouraged to take the full four year cycle of performance classes at Middlebury Union High School. In addition to performance-based courses, the music department offers courses in guitar, DP Music, and MYP Music.

DP Music students are required to be in either band or jazz band for instrumentalists; or concert choir/choir ensemble for vocalists, as well as DP Music.

100: Songwriting and Music Production - MYP (Grades 9-12)

½ Credit

This contemporary course is open to any student with an interest in music. This will be a project-based course in which students will have opportunities to learn basic musical concepts. The course will cover contemporary music theory, songwriting techniques, and the use of music technology for audio recording and production.

110: Concert/Marching Band MYP (Grades 9 - 12)

1 Credit

The prerequisite for this course is a minimum of two years of ensemble experience or with the permission of the director. Requirements include - two to three yearly concerts, small ensemble performances, parades, as well as individual and group projects based on units studied or music performed.

115: Jazz Ensemble (By Audition Only)

1 Credit

Enrollment in this course will be by audition in the spring. This select group will ideally consist of five saxophones, five trumpets, four trombones and five rhythm instruments. Students are required to be enrolled in Band (with the exception of the guitar and bass). Students are expected to improvise and learn concepts of improvisation such as major/minor scales and modes. Students may be asked to learn jazz standards and stylize them, arrange jazz charts and compose jazz melodies. Students are expected to attend adjudications and competitions as well as public performances throughout the school year.

130: Concert Choir MYP (Grades 9 - 12) 1 Credit

Concert Choir is MUHS's vocal performing group of students in grades 9-12. Students will improve their knowledge of singing as well as improving their music reading skills. Concert Choir students are required to attend all public performances (usually three to four per year).

138: Camerata Singers (By Audition Only, Grades 9-12) 1/2 Credit

Choral Ensemble is an auditioned ensemble of accelerated singers working to develop their individual artistic skills and overall musicianship. Enrollment in this course will be by audition in the spring for grades 8-11.

145: Beginning Guitar ½ Credit

Students will learn how to read music using the guitar. They will learn basic music theory and how to play chords and melodic lines on the guitar. No prior guitar or music experience is needed. Guitars will be supplied by the school.

200: Music Theory and Composition - MYP (Grades 9-12) 1 Credit

Students will explore concepts of music theory in detail through analysis, arranging, ear training and composition. At the conclusion of the course, students will have a strong understanding of the structure of musical compositions and be fully prepared for the more in depth study of music and music performance requirements in the DP Music course.

350: DP Music (SL): Year 1 (Grades 11-12) 1 Credit

The DP music course provides students with the opportunity to engage in the world of music as lifelong participants. Students will study musical analysis, composition, and performance. By the end of this course, students will be able to demonstrate knowledge of music in relation to time, place and cultures as well as use appropriate musical terminology to describe and reflect their critical understanding of music. Students will act as researchers, performers, and creators. All students will develop critical-thinking skills through reflection and analysis of their craft. It is required that all students participating in DP music are enrolled in the school's music performance ensemble. Due to the diploma program performance portfolio, students will need to audition or provide evidence of competency on one instrument.

351: DP Music (HL): Year 1 (Grades 11-12) 1 Credit

The DP music course provides students with the opportunity to engage in the world of music as lifelong participants. Students will study musical analysis, composition, and performance. By the end of this two-year course, students will be able to demonstrate knowledge, understanding and perception of music in relation to time, place and cultures as well as appropriate musical terminology to describe and reflect their critical understanding of music. Students will act as researchers, performers, and creators. All students will develop critical-thinking skills through reflective thought and analysis of their craft. It is required that all students participating in DP music are enrolled in the school's music performance ensemble. Due to the diploma program performance portfolio, students will need to audition or provide evidence of competency on one instrument.

450: DP Music (SL): Year 2 (Grade 12) 1 Credit

DP Music Year 2 is an intensive course for students who have completed DP Music Year 1 and are working towards either the IB certificate or the IB Diploma. In Year 2, students are working towards completion of the IB internal assessment requirements: Exploring Music (2400 word essay, music composition, musical song adaptation, and musical composition and performance), Experimenting with Music (1500 word essay, three musical experiments as a performer, three musical experiments as a creator), and Performing Music, (600 word essay, 12 minutes of performance, 6 minutes of creating exercise).

451: DP Music (HL): Year 2 (Grade 12)

1 Credit

DP Music Year 2 is an intensive course for students who have completed DP Music Year 1 and are working towards either the IB certificate or the IB Diploma. In Year 2, students are working towards completion of the IB assessment requirements. At the end of Year 2, students are required to submit the following portfolios: Exploring Music (2400 word essay, musical composition, musical song adaptation, and musical performance), Experimenting with Music (1500 word essay, three musical experiments as a performer, three musical experiments as a creator), and Performing Music, (600 word essay, 12 minutes of performance, 6 minutes of creating exercise), and The Contemporary Music Maker (HL only. This is a 15 minute multimedia collaborative project).

Visual Art

The visual arts are a part of everyday life. We celebrate the visual arts not only in the way we create images and objects, but also in the way we appreciate, enjoy, respect and respond to the practices of art-making by others from around the world. The arts connect many areas of knowledge and human experience through individual and collaborative exploration, creative production and critical interpretation. Students have the opportunity to explore, experiment, create and refine their skills and ideas in the form of compelling projects through the visual arts course offerings.

180: Introduction to Art - MYP (Grades 9-12)

1 Credit

In this Visual Arts course, students will be exposed to a variety of materials and methods in order to build and strengthen art-making skills. Students will practice the fundamental concepts used to create effective artwork and then work to create final pieces that show their learning. Students will participate in research and inquiry to understand the factors that influence the creation of artwork. Creative thinking skills will be developed as students learn to use the language of visual communication to develop their creative voice. A blank wirebound sketchbook is required and will be kept as a process journal.

300: Drawing $\frac{1}{2}$ Credit

This is an intermediate level course in drawing. Through demonstration, practice and observation students in this course will work to strengthen their drawing skills. Students will learn and apply the fundamentals of composition, art and design to their drawings. Students will work with a variety of drawing mediums and practice new techniques as part of coursework. Students will use a variety of drawing materials including graphite, drawing and pen and ink as they work to refine technique.

310: Painting

1 Credit

This is an intensive course in painting for serious art students. The course is designed to introduce students to the fundamentals of painting using a variety of painting media. Students will learn to control their values, edges, color, and composition. This course explores a variety of subject matter and painting techniques. Students should have a foundation in drawing prior to enrolling in painting.

320: Sculpture $\frac{1}{2}$ Credit

This is an intermediate level class in three dimensional art. Students will learn the fundamentals of art and design and apply these concepts in creating effective three dimensional artworks. Students will work with a variety of materials and methods used in creating sculpture including clay. Students will investigate the definition of sculpture, its origin and history, and its evolution over time to understand the factors that influence the creation of artwork.

330: Photography $\frac{1}{2}$ Credit

This course will introduce students to digital imaging techniques. The course is taught from a fine art perspective with a continual focus on artistic composition and photographic communication. Students will gain a deeper understanding of the elements of art and principles of design as they relate to artistic decision-making and photographic aesthetics. The work of great photographers and movements will be integrated to support these aims. This is a hands-on art course that requires students to engage with digital technology and computer literacy. A digital camera is provided for in-class use.

340: Jewelry and Metalwork

½ Credit

In this course, students will explore the use of materials to create well-designed objects that adorn the body. They will learn techniques of metalworking including, forging, cold connections, soldering, and stone setting. Through the study of ancient and modern techniques, students will also explore the history of this craft, and its contexts in culture.

360: DP Visual Art (SL): Year 1 (Grades 11-12)

1 Credit

This course may be taken as a one year advanced art course or combined with Year 2 of the course for students interested in the IB Diploma Program or certificate. The course encourages students to challenge their own creative and cultural expectations as artists. It is an intensive and thought-provoking course in which dedicated students apply the creative process to develop technical proficiency and confidence as art-makers. In addition to creating art, students learn how to formally analyze artworks from a variety of contexts while reflecting on how these artworks impact their own art making practices. At the end of Year 1, students will have completed the research and writing of the comparative study (an IB required assessment task), in which they compare artworks from different cultures through a written report. Additionally, students will have developed a portfolio that demonstrates growth and proficiency in a wide range of artistic concepts, skills and techniques. Prerequisite: Portfolio review or successful completion of 1 fine art credit required.

361: DP Visual Art (HL): Year 1 (Grade 11-12)

1 Credit

This course expands upon DP Visual Art SL with additional assessment requirements at HL that allow for breadth and greater depth in the teaching and learning. The assessment tasks require HL students to reflect on how their own work has been influenced by exposure to other artists and for them to experiment in greater depth with additional art-making media, techniques and forms. HL students are encouraged to produce a larger body of resolved works and to demonstrate a deeper consideration of how their resolved works communicate with a potential viewer. This rigorous course encourages highly dedicated art students to challenge their own creative and cultural expectations and boundaries. Prerequisite: Portfolio review and successful completion of 1 fine art credit required.

460: DP Visual Art (SL) : Year 2 (Grade 12)

1 Credit

This course is an intensive course for students who have completed DP Visual Art Year 1 or portfolio review and are working towards either certificate or the IB Diploma. In Year 2, students are working towards completion of the IB DP requirements: the comparative study, process portfolio and exhibition. This course requires students to be self-directed and demonstrate an ability to manage long-term and complex assignments, while working towards technical proficiency and confidence as art-makers and thinkers. The course will culminate with an independent exhibition of the students own work and submission of all IB assessment criteria. Prerequisite: Portfolio review or successful completion of DP Visual art Year 1 required.

461: DP Visual Art (HL): Year 2 (Grade 12)

1 credit

This course expands upon DP Visual Art SL with additional assessment requirements at HL that allow for breadth and greater depth in the teaching and learning. The assessment tasks require HL students to reflect on how their own work has been influenced by exposure to other artists and for them to experiment in greater depth with additional art making media, techniques and forms. HL students are encouraged to produce a larger body of resolved works and to demonstrate a deeper consideration of how their resolved works communicate with a potential viewer. This rigorous course encourages highly dedicated art students to challenge their own creative and cultural expectations and boundaries. Prerequisite: Portfolio review or successful completion of DP Visual art Year 1 required.

Additional opportunities to earn Art credit may be available in courses offered at the Hannaford Career Center (HCC). See HCC course offerings at the end of this catalog or visit the website <http://www.hannafordcareercenter.org/>.

Design

Design is the process that links creativity and innovation, taking thoughts and exploring the possibilities and constraints associated with the products or systems, allowing students to redefine and manage the generation of further thought through prototyping, experimentation and adaptation. It is human-centered and focuses on the needs, wants and limitations of the end user.

100: Design 1 - MYP Year 4 (Grade 9-11)

1 Credit - Design

This course is an introduction to the engineering principles and technologies employed to design, prototype, and fabricate products. Students will gain practical experience with various engineering skills. The course will enable learners to identify, consider and solve problems through creative thinking, planning and design. Students will work with different media, materials and tools, ranging from hand tools to the latest in technology, such as CNC machines and lasers. As a result, learners gain greater technical and design awareness, while developing skills such as initiative, resourcefulness, inquiry and ingenuity. Additionally, the nature of the projects will allow students to refine their ability to work productively in a team and to improve their communication skills.

200: Design 2 - MYP Year 5 (Grade 10-11)

1 Credit - Design

In this hands-on, project-based course, students will be challenged to apply the knowledge they gained in Design 1 on more complex and challenging projects. Students will gain more experience using the CNC machine and laser cutter and have the opportunity to create projects of their own design. The course will also include the basics of computer programming and, using Arduino kits and exploring the various tools and technologies used to create devices that are used every day. Prerequisite-Students must have taken Design 1 prior to taking Design 2.

300: Design 3 - Robotics (Grade 11-12)

1 Credit - Design

In this course, students will explore the field of robotic design using a variety of hands-on activities. The year will begin with an introduction to the tools used to create robotic devices. Students will then create simple drivetrains capable of movement through remote-controlled operation. Mechanical concepts such as gearing, torque, speed, and power, as well as sensors, actuators, and manipulators are introduced. These topics are explored through the use of hands-on labs where students must use their knowledge to design and build custom drivetrains capable of meeting a variety of criteria, including climbing, pushing, attaining maximum speed, etc. Students will test their designs through a series of in-class competitions. Subsequently, they will move on to autonomous navigation where the robot is controlled entirely through programming. Though programming is an essential and vital element, all necessary programming knowledge will be taught, so no prior knowledge is necessary. The final 9 weeks of class will be comprised of a capstone design project, where students will simulate a zero-carbon robotics startup specializing in hazardous tasks. These robots will be created from scratch using only renewable or recycled parts. Only the motors and microprocessor will be provided. During this portion of the class, students will have full access to the shop including CNC machines, laser cutter and 3D printers.

350: Technical Design and Build (Grade 11-12)

1 Credit - Science or Design

Using the design and engineering loop as the theme of the course, students will be faced with hands-on, real world problems with a focus on designing and building projects. Science, technology, engineering, and math concepts (STEM) will be embedded in all of the units. Concepts such as reverse engineering, Newton's laws of motion, and simple machines will be covered. Students will pick an engineering design project that focuses on solving a problem in the community as their final summative assessment for this course. Prerequisite: Successful completion of Earth Systems and Physics - MYP Year 4 and Biology and Chemistry - MYP Year 5 Science.

Physical and Health Education

IB Physical and Health Education aims to empower students to understand and appreciate the value of being physically active and develop the motivation for making healthy life choices. To this end, Physical and Health Education fosters the development of knowledge, skills and attitudes that will contribute to a student's balanced and healthy lifestyle. Through opportunities for active learning, the course embodies and promotes the holistic nature of well-being. Students engaged in Physical and Health Education will explore a variety of concepts that help foster an awareness of physical development and health perspectives, empowering them to make informed decisions and promoting positive social interaction. In addition, students are offered certification in CPR and First Aid (Year 5). These courses play an integral role in the well-rounded growth and learning of all students and will help them to develop the foundation for a physically active and healthy lifestyle.

100: Health - MYP Year 4 (Grade 9)

½ Credit - Health

All students in grade 9 will take this semester course. This standards-based health curriculum provides students with opportunities to develop knowledge and skills in developing a healthy lifestyle, addressing best practice as outlined through the National Health Education Standards. Students will focus on mental and emotional health, including stress management, goal setting, self-management, alcohol and other drugs, and sexual health. These courses play an integral role in the well-rounded growth and learning of all students and will help them to develop the foundation for a physically active and healthy lifestyle.

100: Physical Education - MYP Year 4 (Grade 9)

½ credit - PE

All students in grade 9 will take this semester course. This course will explore a variety of lifetime activities, introduce fitness skills and concepts, and aesthetic movement through dance. Each unit is designed to teach students the concepts and skills necessary for them to participate successfully and safely. The physical education curriculum uses national and state standards to guide instruction in order to provide students with opportunities to develop knowledge and skills in a variety of activities which will improve fitness levels and foster personal growth and confidence. Each standards based unit is designed to teach the students the concepts and skills necessary for them to participate successfully and safely.

200: Health - MYP Year 5 (Grade 10)

½ Credit - Health

All students in grade 10 will take this semester course. Continuing the standards-based approach, students will further their knowledge and understanding of how to develop personal wellness. Students will explore practical application in decision making, disease prevention through managing a medical condition and navigating the health care system, and CPR and First Aid skills, with an opportunity for certification.

200 Physical Education - MYP Year 5 (Grade 10)

½ credit - PE

All students in grade 10 will take this semester course. Standards-based instruction will help students further their knowledge and understanding of how to develop personal wellness through fitness, nutrition, sleep, hydration, and mindfulness habits in order to positively impact how they feel and perform. Students will explore lifetime activities in order to promote wellness and complete an aesthetic movement unit which will include yoga, Tai Chi, pilates, and step aerobics. Students will complete their MYP years in PHE with the knowledge and ability to live a lifetime of positive personal wellness.

300: Personal Fitness (Grade 11-12)

½ Credit-PE

This course is designed to improve students' fitness levels through a variety of fitness activities. Students will experience different ways to develop fitness as well as participate in a self-designed fitness routine based on their personal goals. This course will facilitate a greater understanding of how to condition appropriately and demonstrate that there are many ways to develop a physically active lifestyle. Students will be challenged to develop good habits of exercise, nutrition, hydration, and rest, as well as make connections between regular physical activity and their social, emotional, and cognitive wellness. The independent and individualized nature of this course will help students develop the foundation for a lifetime of physical activity and wellness.

Independent Study: Health

1 Credit-Health

Students may opt for the Independent Study as outlined by the health educator(s) in alignment with the National Health Education Standards and Vermont Health Education Standards. It is the equivalent of a semester's comprehensive curriculum with the creation of an extensive portfolio and should be considered only by motivated students who are independent learners. This experience is similar to a Home Study Course. The development of the projects in the portfolio and any use of resource materials (texts, worksheets, etc.) are the responsibility of the student and parent/guardian. Work submitted is expected to be comparable to the evidence of learning as in a full-year course. Students are encouraged to work on developing and strengthening the following *skills*: decision-making, self-management, analyzing influences, accessing information, interpersonal communication, goal setting, and advocacy through the following *themes*: alcohol, tobacco and other drugs; healthy eating; mental and emotional health; physical activity; personal health and wellness; safety; sexual health; and violence prevention. Focusing on the key skill--decision-making--students are encouraged to apply these strategies in a practical manner to their everyday lives. The curriculum, course expectations and application including guidelines for successful completion of the final portfolio are available in the School Counseling Office. This portfolio should demonstrate the student's mastery of the skills and content in each of the thematic units from the Health outline and will be assessed using rubrics included in the Independent Study Packet. Students interested in earning credit for the upcoming calendar year should complete the application by June 1st. Portfolios are due on or before February 1st.

DP and Middlebury Core Required Courses

300: Research & Writing Readiness for the Extended Essay (Grade 11 - DP Candidates)

½ Credit

This semester-long course runs the first semester of grade 11 year for full IB Diploma candidates. It is designed to support students in the initial development of their extended essay topic. Additionally, students will review the essential skills required of Diploma candidates in the extended essay, other DP courses, and post-secondary education. This course will begin by evaluating research and writing readiness. Topics that will be explored include choosing relevant sources, citing sources appropriately, academic honesty, determining appropriate methodology, and writing using academic language. Once initial readiness has been determined, focus will turn to the extended essay and exploring possible subjects and topics for extended essays, as well as honing the research question into one that is focused and workable. By the end of the course, students will have finalized the subjects and topics in which they will write their extended essay, been assigned a faculty supervisor, and started initial research.

300: Midd Core Theory of Knowledge (TOK) (Grades 11/12)

1 Credit

Theory of Knowledge is a course focused on the question, “How do we know what we know?” In TOK, students explore the nature of knowledge and the process of knowing by analyzing and reflecting on knowledge questions. The curriculum comprises three interrelated parts: the core theme of knowledge and the knower, optional themes, and areas of knowledge.

This course is part of the Middlebury Core and is required for graduation. Students can take this year long version of TOK in either grade 11 or 12. Students must successfully complete this course to earn an MUHS diploma

390: Theory of Knowledge (TOK) - Part 1 (Grade 11 - DP Candidates)

½ Credit

In addition to covering the same topics as the Midd Core TOK, this class centers on exploring knowledge questions that are organized into a framework of four elements: scope, perspectives, methods and tools, and ethics. In Part I, students will focus on the core and optional themes in preparation for the IB internal assessment, the TOK Exhibition. Following the Research & Writing Readiness for the Extended Essay course in semester 1, all DP candidates must begin TOK--Part 1 during the semester 2 of grade 11. This course will run over two years, the second half will be during semester 1 of grade 12. Successful completion of this course is required for all DP candidates.

400: Theory of Knowledge (TOK) - Part 2 (Grade 12 - DP Candidates)

½ Credit

This course is an extension of the first semester, from the previous year. Students will focus on examining Areas of Knowledge in preparation for the culminating IB external assessment, the TOK Essay. This course is only offered first semester of the grade 12 year in order to allow the full diploma candidates to meet the timeline for submitting their two required IB diploma assessments.

Elective Courses

100: Personal Finance (Grades 11/12)

½ Credit – Elective

In this course, students explore all aspects of dealing with their own finances. This includes learning about budgeting, checking accounts, savings accounts, credit cards, loans, insurance, apartment renting, car buying, investing, financial aid for post-secondary education, and other important financial skills. The class will challenge students to look at their own personal spending habits now and in the future. This is a class for everyone who wants to be a better informed consumer and be able to make educated decisions about what to do with their money.

110: Career Exploration

½ Credit – Elective

What happens after high school? What are the options available to students once high school is finished? This course will help students determine career interests and research the different paths that can lead to different careers. Whether headed to college, vocational school, an apprenticeship, or into the job market after high school, it is important to be on the right path. Students will do interest inventories, research different career clusters and post-secondary institutions, hear a variety of speakers from different areas, and find out what it takes to get hired in today's competitive job market.

120: Entrepreneurship/Small Business Management

½ Credit – Elective

This course is designed for students who want to explore the tools for successful small business ownership. In this class, students will develop a business plan for the business of their choice. Students will choose a product or service that interests them and develop their business plan from there. This is a great course for anyone who is involved in a family business or would like to start a business in the future.

130: Sales and Marketing

½ Credit – Elective

Learn the four P's of Marketing: price, product, place, and promotion. Students will develop a marketing plan for a product that they determine on their own. Students will then conduct a market research project on the products to see if and how they will sell in the marketplace. Students will decide where their products will be sold, for how much, and how to market their products. The course will culminate with a segment on how business and marketing firms target young people so that everyone becomes a better-educated consumer. This is a great introduction to the world of marketing and business.

140: International Business

½ Credit – Elective

Where does Middlebury fit into the world economy? How does the world economy affect us here in Vermont? These questions and many more will be answered in this course on how the world of international business works. Students will learn how the economies of the world work together, why they work together, and what happens when they do not work together. Each student will focus on one country and how that country's economy is affected by the globalization of business that affects us all.

200: Internship

up to 1 Credit – Elective

Take the opportunity to interact with a business or organization and acquire in-depth information about a career or special interest by participating in an internship. Students attend their internship when they are not scheduled for a class or after school. Requirements include attending the internship on a weekly basis, turning in timesheets that explain what the student does on a daily basis at the internship, and meeting regularly with the Work-based Learning Coordinator. Academic credit is given based on the number of hours engaged in the internship. This opportunity is open to all students.

220: Beginning Foods

½ Credit – Elective

This class stresses basic food preparation techniques and basic nutrition. Students will use their knowledge to plan and prepare nutritious meals that they will enjoy serving and eating. Students will also have the opportunity to explore new foods.

230: Advanced Foods

½ Credit – Elective

Students will use the same skills and knowledge gained in beginning foods. In addition, students will travel around the world using their taste buds, exploring the foods of Asia, Greece, France, Mexico, Germany, etc. This is a fun class full of wonderful tastes and aromas. The students prepare all the meals themselves. Prerequisite: Beginning Foods

300: Work Experience

¼ to 1 Credit – Elective

Students work at a job-site and receive elective credit along with a paycheck. This program teaches students workplace skills that will help any person succeed and grow in any area of work and/or career exploration that the student chooses. The work-site supervisor and the Work-based Learning Coordinator work with students to teach these essential skills. Requirements include working at the job-site and agreed upon set of hours, meeting regularly with the Work-based Learning Coordinator, and turning in paycheck stubs. Credit is determined by the amount of hours put in at the work-site each academic quarter. This opportunity is open to students age 14 and older.

310: Community Service Program

Up to 1 Credit – Elective

Students may do volunteer work in a variety of social service agencies such as Special Olympics, Elderly Services, the Better Middlebury Partnership, local elementary schools, libraries, Equestrian Challenges, etc. They may also design their own individual volunteer projects in coordination with the Community Service Coordinator. In doing this work, students will participate in the life of the community, learn about career possibilities, gain knowledge and skills needed for responsible membership in their communities, and understand more about social issues. To receive credit, students attend one group meeting to share their experiences with others, keep a journal, and complete a final project about the organization they served. All grades are Pass/Fail.

The hours completed in community service will also apply toward the Midd Core CAS graduation requirement.

210: Driver & Traffic Safety Education

½ Credit - Elective

The focus of this course is to develop responsible driving skills, create good habits, increase knowledge and attitudes with an emphasis on safety and respect for all roadway users. Students should expect to practice driving with an adult* for a minimum of 20 hours during this course in addition to the time spent with the instructor.

Note: Successful completion of this course is required before taking the Junior Operator's License Exam. A passing grade with a minimum of thirty hours of classroom instruction, along with 6 hours of behind-the-wheel lab instruction, plus 6 hours of in-car observation time to a proficient level are needed to fulfill State requirements.

**An unimpaired, licensed driver, at least 25 years old is considered an adult.*

Note: Due to a maximum enrollment of students each semester, the following procedures for enrolling in Driver Education for the next school year will be followed:

1. To sign up, a student must show a valid Learner's Permit (<http://drivervt.vermont.gov/> for Learner's permit online instruction and testing) to their School Counselor. Enrollment is solely at the discretion of the School Counseling Department.
2. The deadline for being "on time" for signing up is May 1st.
3. Priority from among the "on time" students will be given to grade 12 students (by age), grade 11 students (by age), grade 10 students (by age), and grade 9 students (by age).
4. After the May 1st deadline, priority is given to students on a first come/first serve basis.
5. A waiting list is also created for those wishing to take this course during the summer. Again, priority is by sign up date.

Prerequisites: Must have valid Learner's Permit prior to registering and maintain valid status for the entirety of the course while enrolled.

620/630: Publications I & II

½ or 1 Credit – Elective

This is a course that allows students to work on skills related to various publications including writing, design and layout skills, advertising and marketing strategies, management and interpersonal communication skills. Currently, the major focus of this class is the production of the school yearbook, *Quatrain*. Students are expected to put in after-class hours that include photography, advertisement selling, and the layout of the yearbook. Students will learn all aspects of the production of a published hardcover book.

100: Office Aide/Teacher Assistant Program

¼ - 1 Credit– Elective

Students may elect to become office aides or teacher aides during their free periods. All grades are Pass/Fail. For more information on this program, students can see their school counselor.

Flexible Pathways

Students come from diverse backgrounds and sometimes have very different interests and goals. To assist students with attaining these educational goals, MUHS offers the following elective programs that adhere to the Flexible Pathways initiative in the State of Vermont. For additional information, please see a school counselor.

VHS Learning

Middlebury Union High School offers online courses through VHS Learning. This online platform offers over 400 courses, including 15 Advanced Placement (AP), across multiple disciplines. A list of courses and additional information is available at the VHS Learning website (www.govhs.org). Students may enroll in 1 VHS Learning course each school year. An exception may be made based on space availability.

Students who enroll in a VHS Learning course will be able to:

1. Have access to unique courses that are not available at our high school.
2. Improve scheduling flexibility – these classes can be scheduled around existing classes provided the student has internet access.
3. Gain essential transferable skills such as multimedia presentation, online collaboration and communication, and team-building.
4. Collaborate with students from other states and countries.

Students interested in information about enrolling in a VHS Learning course should talk with the MUHS VHS Learning Site Coordinator or their school counselor.

Pamoja (online DP courses)

This is an approved provider of IB diploma courses for students interested in earning an IB certificate or the full diploma. MUHS will only pay for these courses when it is not possible to schedule all of the courses the student would like to enroll in, to be a full DP candidate, or when the course is not offered at MUHS. Pamoja is based in the UK and the teachers are from all parts of the world. The school year schedule follows the UK educational system, this means some breaks are at different times, and the quarters end at slightly different times as well. **Prerequisite:** DP Coordinator/Administration approval.

Dual Enrollment

The State of Vermont provides two tuition vouchers for high school students to take college classes during grade 11 and 12. Students earn both college and high school credit for these courses. They may take courses during the summer preceding their grade 11 and 12 years in addition to the regular school year. More information is available in the School Counseling Office.

Early College Program

MUHS seniors have the option to complete their final year of high school at college, tuition free. The partnering colleges are: Castleton University, Community College of Vermont, Northern Vermont University, Vermont Technical College/Vermont Academy of Science and Technology. Students interested in this program should see their school counselor for more information.

Middlebury College Course

Middlebury Union High School has an agreement with Middlebury College whereby a limited number of **grade 12 students** are allowed to enroll in Middlebury College courses that the high school does not offer. To apply, students must have exhausted all MUHS classes offered in the subject area to which they are applying. There is no charge for these courses. All applicants must be exceptionally strong academic students who have demonstrated a responsible and mature approach to their academic commitments. Interested students need to complete an application form (available in the School Counseling Office). Classes will be taken for an academic letter grade and will become part of the official transcript. They will count towards Class Rank and Grade Point Average (GPA). It is important to note that no college credit is awarded for courses taken at Middlebury College by a MUHS student.

Independent Study Program

Any student is eligible to take an independent study course. The program is designed for students who are unable to reasonably participate in regularly scheduled classes or who desire academic pursuits outside the available curriculum. Independent studies are in addition to the minimum number of seven classes required of a full-time student. Independent studies are Pass/Fail only and are typically not to be used to fulfill graduation requirements. Approval for an independent study is based upon the level of maturity, responsibility, self-motivation and, to some extent, the academic performance of students. To apply, students should decide upon a topic and a supervising faculty member from within the school who is knowledgeable in the area of interest and then, with the assistance of the faculty member, complete an application form available in the School Counseling Office.

External Opportunities

Students interested in earning credit for course work outside Middlebury Union High School's program must complete the "Request for Pre-Approval" form available in the School Counseling Office prior to the beginning of the course/program. Additional information such as a course syllabus and course or program description should be included with the request. Credit for coursework taken outside MUHS will be for elective credit unless otherwise approved. If approved, the student must submit an official grade report to the School Counseling office upon completion of the course to receive credit. Examples of potential alternative course work are: Johns Hopkins Center for Talented Youth (CTY), Middlebury World Language Programs, etc.

English Language Learner (ELL) Programs

100: Beginning ELL

1-2 Credits – Elective

The ability to understand, speak, pronounce, read and write basic English is critical to the social and academic participation of any American high school student. Beginning ELL introduces students, whose primary language is not English, to the basics of the language. Students practice the five components of language listed above through drills, dialogues, skits, discussion, tasks, guided reading, dictation, and class discussion. They become able to converse in a variety of situations and develop basic reading and writing skills and strategies. They also gain a working knowledge of school and community culture and they use technology to produce classroom work. Language and Literature credit may be awarded with administrative approval.

200: Intermediate ELL

1-2 Credits – Elective

The ability to understand, speak, pronounce, read and write English well is critical to the social and academic success of any American high school student. Without a thorough command of English, a student cannot join a club, express a complex emotion, or succeed in an academic class. In Intermediate ELL students work to improve their language skills and their use of the strategies and resources available to them as students as they move into full participation in the academic and social life of the school and the community. They practice academic vocabulary, writing and reading using their regular classroom assignments as a base. They also improve their listening, speaking and pronunciation skills through classroom dialogues, video analysis, drills, discussions, and projects. Language and Literature credit may be awarded with administrative approval.

SPECIAL EDUCATION SERVICES

The Special Education Program serves students with special learning needs who have been referred, assessed, and found to meet the State eligibility requirements. The Special Education staff collaborates with faculty members to provide direct service in the areas outlined in each student's Individual Education Plan (IEP). Eligible students participate in the Special Education services according to their individual needs. Examples are: direct services for classroom support, specialized instruction in basic skills areas, Special Education courses, transition planning, and consultation with classroom teachers to meet individual student needs. Special Education course offerings vary depending on the year and are designed to meet individual learning needs. **Credit determination for Special Education courses is a Case Manager/Assistant Principal decision.**

Academic Curriculum:

900: Academic Support

Students receive support in small groups for their coursework in general curriculum classes. Students are expected to recognize and provide the materials and coursework needed to access the support.

905: Social Skills

The social skills class provides students with a common language intended to help them deal with issues of adolescence and problems they may encounter when dealing with their parents, teachers, and peers.

910: Reading Decoding

This course is designed to teach the Wilson Reading System to students who are reading and/or spelling below their expected level. This program will help students learn to read using their own learning style. The Wilson Reading Program is a carefully organized program to provide the rudimentary skills necessary for reading. Though it is largely phonetic by design, sight words are introduced at appropriate intervals. There are 12 steps in the program.

911: Reading Strategies

This course is designed to build students' reading skills. Focus will be on developing vocabulary, fluency, and developing other strategies necessary for improved comprehension. Course work will be determined by students' goals. This course is not appropriate for students needing systematic decoding instruction.

912: Transition

This class exposes students to the realities of life beyond high school. Students will focus on developing reading, writing, and speaking skills as they apply to the real world. Students learn and work at mastering key transition skills for the following areas: employment, independent living, community participation, and post-secondary education/training. Activities include understanding and filling out job applications, practicing interview skills, writing a resume, understanding job pay and benefits, researching housing options, understanding credit, checks and banking, and accessing community agencies and services. There is a strong emphasis on personal responsibility relating to each of the covered topics.

913: Writing

This course is designed to enhance aspects of written and oral communication. Student work is self-paced and individualized. Writing assignments focus on improving basic writing conventions and developing paragraph writing skills.

914: Reading/Writing

This course focuses on the connection between reading and writing, and is designed to develop student skills with self-paced, individualized instruction. Curriculum includes: vocabulary enrichment, reading comprehension skill building, written expression skill building in planning, writing, and revising.

942: Basic Math

This class is designed to teach students the basic math skills necessary to complete calculation tasks. Students focus on addition, subtraction, multiplication, division problems and fractions, progressing towards Pre-Algebra skills.

943: Applied Math

This math class is taught with an emphasis on practical, everyday uses. This class is for students with entry-level computation skills. Students will access stores and services in the community to learn basic money, time, and number skills.

962: Adaptive Physical Education/Health

The focus of this course is to improve the student's overall spiritual, emotional and physical health through modifications designed to meet the individual needs and abilities in participation through lifetime, recreational and fitness activities. Lifetime and recreational activities will include: archery, golf, soccer, basketball, badminton, softball, Bocce and gymnastics. A fitness program will be implemented based on the individual's FitnessGram Assessment in the beginning of the course.

The health topics in this course include male and female anatomy, adolescence, puberty changes, conception, stages of pregnancy, contraceptive methods, and sexually transmitted diseases. A focus for students with high needs may include personal hygiene, safety, and daily living skills.

983: Work Experience (Grade 10 - 12)

Elective Credit

In Work Experience, grade 10-12 students are placed in 1-2 supported work experiences per semester at businesses in the Middlebury community. Students are coached in the keys of the working world. They are supported on work-sites by a job coach, with the goal of fading supports to just transportation as the student grows in independence. Those decisions are made on an individual basis, as some students and sites require constant supervision or support. Students are evaluated by the work-site supervisors and their job coach. Classroom work includes maintaining an updated resume, practice searching for jobs, and filling out applications. We have amazing community partners around Middlebury! Possible internship sites include: retail, restaurant, technology, agriculture, automotive, and manufacturing.

984: Champlain Longboat Building Project 2 credits - 1 credit each in Design, Science, or Individuals and Society

Students travel to the Lake Champlain Maritime Museum (LCMM) in Ferrisburgh, Vermont every other afternoon to build a 32-foot Pilot Gig Longboat. Students learn about the history, science, and design behind these boats, as well as how to work as a team to accomplish a common goal. Students build a website linking their learning experiences and course criterion to document their work. At the end of quarter 3, families are invited out to the boat-shop where each student presents a demonstration of one aspect of the building process. On launch day, students give a brief presentation on their experience before embarking on the first row in the new boat.

985: EPIC - Exploring Pathways Into Careers

1 Science Credit

EPIC provides students an opportunity to explore careers in the service industry, while gaining basic employee soft skills, and daily living skills. Students will begin by taking career interest assessments, which guide our community based explorations. Instruction in science is embedded in units on nutrition, food safety and food chemistry. Students learn through completing personalized projects, preparing food in a commercial kitchen, and touring local businesses.

986: MUHS Career Crew $\frac{1}{2}$ Science & $\frac{1}{2}$ Math Credit

On MUHS Career Crew, students form a service learning team that completes projects for local community members and businesses. Students will learn to design and post an advertisement, practice communicating with “customers,” schedule projects, conduct estimates, create materials lists, and create practice invoices. Projects will include landscaping, construction, agriculture, plumbing, painting, and general property maintenance. Instruction in work-site communication, safety, and preparing for work is provided. Embedded math topics include measurement, geometry of construction, and estimating / billing. Science lessons include introductions to forestry, agricultural and electrical sciences.

The Learning Lab

The Learning Lab provides academic support to Middlebury Union High School students seeking extra assistance in specific subjects. While many students refer themselves to the Learning Lab, referrals also come from school counselors, teachers, Educational Support Team advocates, or their parents.

Volunteer tutors from Middlebury College, the community, and MUHS work with students in the Learning Lab to help them strengthen their skills in a variety of subjects. Skilled tutors address the individual needs of students to enhance knowledge, participation, confidence and self-esteem.

The Learning Center

The MUHS Learning Center consists of the Library and Technology Center Lab and serves all students in grades 9 through 12. The library's resources include books, eBooks, magazines, newspapers, DVDs, and online research databases. Library staff is available to help students: do research for academic assignments and personal interest; find and cite digital or print resources; and find material for leisure reading.

Home Study Program Credit Evaluation

Students enrolling at Middlebury Union High School who have had high school level home study may apply for high school credit. The granting of such credit should not be viewed as automatic. In order for Middlebury Union High School personnel to fairly and accurately assess home study work for academic credit, it is necessary that students provide certain information.

The following information and procedures are provided to assure that home study students understand what information is needed by the high school to make decisions regarding the awarding of credit for home study work: students must be, or must have been, in a State approved program of home study. The high school will not consider awarding high school academic credit for students who are not enrolled in such a program.

When students are enrolled in an approved home study program, they need to provide the high school with a portfolio of their academic work in the area that academic credit is requested (e.g. for 9th grade Language and Literature credit, the student must provide documentation of having achieved the equivalent of grade 9 Language and Literature work). Students may be required to pass a written examination, similar to that of students enrolled in the course in the high school.

A committee comprised of at least one faculty member in the subject area, the high school Principal or designee, and a school counselor will review the submitted portfolios and examinations.

Once students' portfolios and/or written examinations have been reviewed by committee, students will be notified, in writing, of the amount and type of academic credit awarded by the high school. All home study credit is awarded by the high school on a Pass/Fail basis. Pass/Fail courses are not computed in determining student GPA.

**PATRICIA A. HANNAFORD CAREER CENTER
COURSE DESCRIPTIONS 2022-2023**

**For more information on these programs and the Patricia A. Hannaford Career Center,
visit our website <http://hannafordcareercenter.org>**

Career and Technical Programs (available to 11th and 12th grade students)

(Please see grade level Entrance Proficiency Expectations)

AGRICULTURE ACADEMY PROGRAMS

DIESEL POWER TECHNOLOGY

This program, located on the north campus, covers engines, fuel systems, and power trains on agricultural and medium/heavy duty diesel equipment. Students will learn gas and diesel engine overhaul skills needed to enter the field as an agricultural, industrial, and consumer products mechanic. Other topics covered: equipment set-up, adjustment and maintenance, sales, customer relations, computerized electronic fuel systems, lubricating and cooling systems, valves, timing and micrometers. Students will also learn mechanical skills for power transmission systems that prepare them to work on agricultural, industrial and consumer products equipment. Exploration of power transfer using clutches, gears, power shifts, torque converters, hydrostatic, final drives and power take-off devices. Construction equipment maintenance is also part of the course. Leadership training through FFA (ffa.org) is part of the course as well as participating in the SkillsUSA competition. Students will be encouraged to bring in equipment/trucks for repairs. Job placements may be available for qualified students.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript. Proficiency in algebra and geometry concepts.

Credits: 6 credits (1 science, 5 electives) upon completion of the two-year program. **Qualifying students can earn up to 4 college credits from Vermont Technical College in Vehicle Electronics (GTS 1120).**

NATURAL RESOURCE MANAGEMENT

Forest Science (2022-2023 - alternating years)

In this two-year revolving program students will learn how forest ecosystems play an essential role in the preservation of biodiversity, mitigate the effects of climate change, and learn how to manage forests as resources for the economies of today and future generations. Harvesting trees, skidding logs, operating a sawmill, producing maple syrup, and developing forest management plans are all cornerstones of the curriculum that encourages students to step beyond their comfort zones.

Land Use and Wildlife Conservation (2023-2024 - alternating years)

Students will study the relationships between water quality, soil science, and wildlife conservation efforts. They will learn how to operate heavy equipment, utilize GIS mapping software, and work closely with industry professionals to design and execute comprehensive projects for wildlife restoration and agricultural activities.

Credentials: Students may earn credentials through the Vermont Center for Geographic Information (VCGI), OSHA 10, and NCCER that can lead to employment in high demand and high wage jobs throughout Vermont.

Participation in FFA (ffa.org) with students in other agriculture programs is part of the NRM program.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, successful completion of Introduction to Agricultural Sciences (formerly Plant and Animal Science) or another high school science course, strong critical reading skills, and an interest in field work.

Credits: 6 credits (1 math, 1 science, 4 electives) upon completion of the two-year program.

Qualifying students may earn college credits from Paul Smith's College, Vermont Technical College, and/or the University of Maine.

SUSTAINABLE AGRICULTURE

Livestock Anatomy/Physiology and Soil/Water/Nutrient Management (2022-2023 - alternating years)

This two-year revolving program provides students with skills and knowledge necessary in pursuing careers and college studies related to today's northeastern diversified agriculture setting. Students will study soil, greenhouse management, value added dairy products and cheese making, pasture management, forage production, and farm nutrient management.

Northeast Livestock Production and Sustainable Diversified Agriculture (2023-2024 - alternating years)

Students will study animals from the cellular level up through gross anatomy relating this knowledge to its application in livestock production systems. Students learn how livestock production is managed in Vermont, which may include beef, sheep, swine, goats, equine, poultry and dairy cattle. Elements of animal behavior, growth and development, nutrition, feeds and reproduction are covered.

Each year students will assist in the operation of the PAHCC Deep Roots student farm located at our north campus and the Garden Patch greenhouse at main campus. Visits to locally owned farms and agricultural businesses help develop student understanding of the depth and importance of this sector of the community to the local economy. Participation in the FFA organization (ffa.org) is an integral part of this course.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, successful completion of Introduction to Agricultural Sciences (formerly Plant and Animal Science) or a life sciences course and another science course and strong critical reading skills.

Credits: 6 credits (2 science, 4 electives) upon completion of the two-year program. **Qualifying students who complete the program can earn 3 college credits in Livestock Production (AGR 1050) from Vermont Technical College.**

ARTS & HUMANITIES ACADEMY PROGRAMS

ADDISON REPERTORY THEATER (A.R.T.)

This program offers students an opportunity to create and run a theater company. Students are responsible for all aspects of production: technical, management, performance, research, and writing. Under the guidance of a theater professional and English teacher, visiting artists and special guests, students will produce a fall and spring season of shows for presentation in schools, and theaters throughout the county. The English portion of A.R.T. explores classical dramaturgical literature, as well as related fiction and non-fiction writings. Students will be required to write journals, plays, and non-fiction, conduct research, and complete a professional portfolio.

Two tracks: **Stage Technology/Technical Theater**, in which students explore costuming, special effects makeup, lighting, sound, and scenic design; **Performance**, in which students study various acting techniques, audition strategies for the stage and screen, and skills helpful to the actor (accents, stage combat, playwriting, etc.).

Prerequisites: Entrance Proficiency Expectations, 10 credits on transcript, successful completion of two English courses, submission of A.R.T. program application and a meeting with the program instructor. Students must agree to participate in three productions held after school hours (one in the fall, two in the spring).

Credits: 3 credits per year (.5 fine arts, 1 applied English and 1.5 elective). Students wanting to continue may enroll in Level II of A.R.T. for the second year with instructor recommendation.

DESIGN & ILLUSTRATION

In this year-long program, students use physical and virtual art materials in combination with a variety of current computer programs and technologies (Adobe Photoshop, Illustrator and InDesign, digital drawing tablets and apps) to create graphic designs and illustrations. A wide range of traditional and non-traditional art materials (printmaking, drawing, text as art) are used to solve real graphic design and illustration problems. The program focuses on developing one's own style, calling students to be both creative with and innovative in their approach to art and design. Emphasis is placed on learning and articulating the creative process as well as exploring personal expression. Careers in the arts are investigated and students practice professional skills associated with design and illustration. Each student produces both a physical and virtual art portfolio that can be used to apply to colleges, internships or gap year opportunities. **For more information and examples of past projects, visit: <https://sites.google.com/pahcc.org/d-i/>**

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, including Basic Art or Drawing 1 or Visual Communications. An interest in and comfort with art and computers is a must.

Credits: 3 (1 fine art, 2 electives) upon completion of the one-year program. **Qualifying students can earn 3 college credits in Graphic Arts I (ART 1111) from CCV** and have the opportunity to join the **National Arts Honor Society**.

STEM ACADEMY PROGRAMS

AUTOMOTIVE TECHNOLOGY

Located at north campus, students in Automotive Technology will gain experience in the day-to-day operations of a working auto repair shop with real customers in conjunction with a systems-based classroom component. The content is broken into the following courses:

Automotive Technology 101: Introduction to Automotive Technology

- Shop, Tool, and Industry Safety
- General Vehicle Maintenance (Oil Change Service, Multi-Point Inspections, and Tires)
- Industry Tools: (Welding, Cutting, Automotive Specialty Tools)
- Air Condition 609 Certification

Automotive Technology 102: Science of Automotive Ride and Brake Performance

- Brakes (Disc, Drum, Hydraulics)
- Steering
- Suspension
- VSI Certification

Automotive Technology 103: Automotive Electronics and Emissions

- Vehicle Electronics (Vermont Technical College dual enrollment)
- ASE Testing (Review & Certification)
- Emissions (EVAP, Sec Air)
- Hybrids and EV

Automotive Technology 104: Science of the Internal Combustion Engine

- Engine Mechanical (tear-down, rebuild, measurements)
- Engine Performance (Air Induction, Fuel Systems, Ignition Systems, Combustion)
- ASE Testing (Review & Certification)

Prerequisites: Auto 101: Entrance Proficiency Expectations, equivalency of 10 credits on transcript. Proficiency in algebra and geometry concepts. Auto 102, 103, 104: Successful completion of Auto 101.

Credits: 1 science, 5 electives for completion of all four courses. **Qualifying students can earn 4 college credits from VTC in Vehicle Electronics (GTS 1120).**

COMPUTER SCIENCE PRINCIPLES

This year-long course develops computational thinking, generates excitement about career paths that utilize computing, and introduces professional tools that foster creativity and collaboration. Computer Science Principles covers a broad range of foundational topics such as algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing, as well as Virtual (VR), Augmented (AR), and Mixed Reality (MR) environments. Programming languages include Python, C#, and JavaScript. Project topics include app development, visualization of data, cybersecurity, simulation, machine learning and game development using Unity3D. Curriculum is provided by Code.org and Carnegie Mellon University.

Prerequisites: Entrance Proficiency Expectations, 10 credits on transcript, grade-level evidence of proficiency in Common Core mathematics domains: Number and Quantity, Algebra, Functions, and Modeling.

Credits: 3 credits per year (1 math, 2 electives), 6 credits upon completion of two-year program.

CONSTRUCTION TECHNOLOGY

This program is designed to teach and advance students' academic, technical and transferable skills within the construction trades industry, preparing the student for multiple career and post-secondary educational opportunities.

Construction Technology I is a year-long course that introduces the student to the construction trades industry through dynamic projects and real world applications. Major topics include: jobsite, shop and industry safety and credentialing, hand and power tool use, familiarization with building materials and their application, and introduction to blueprints, planning and design. The course progresses into basic residential carpentry and construction covering framing and wall systems, floor and roof construction, exterior finishing and interior detailing. Major assignments and projects include: shop/workstation improvements, building of sheds and outbuildings, fine furniture fabrication and beginning stages of small modular/tiny home construction.

Construction Technology II is a year-long course and major topics include: jobsite, shop, and industry safety and credentialing, advanced carpentry and trades accreditation, fine carpentry, as well as introductions to the electrical, plumbing, and HVAC trades. Major assignments and projects include: advanced building and design, site layout and foundations, cabinetry and fine furniture fabrication, finishing stages of small modular/tiny home wiring and plumbing, and SkillsUSA preparation. There is a high emphasis on cooperative learning placement and experiential learning by working closely with local industry partners for job shadows, work placements, and future post-secondary workplace opportunities and education. This course strongly encourages students to explore working opportunities and actively supports independent inquiry.

Prerequisites: Equivalency of 10 credits on transcript. Demonstrated proficiency in the use of ratio and rate reasoning to solve real-world and mathematical problems. ([CCSS.MATH.CONTENT.6.RP.A.3](#)) Demonstrated proficiency in solving real-world and mathematical problems involving area, surface area, and volume. ([CCSS.MATH.CONTENT.6.G.A.1](#)) This program heavily utilizes geometry skills. Successful completion of Construction Technology 1 is the prerequisite for Construction Technology 2.

Credits: 3 credits per year (1 math, 2 electives), 6 credits upon completion of two-year program.

ENGINEERING TECHNOLOGY

In the first year of this Project Lead The Way® course, students will use a project-based approach to learn important aspects related to a variety of engineering fields (civil, mechanical, environmental, and electrical). Students will learn how engineers develop and communicate ideas and apply these skills to solve engineering problems. Students will utilize design software (Autodesk Fusion 360) and pair these designs with additive and subtractive manufacturing (3D Printers, advanced manufacturing, and laser cutting) to bring these designs to life. Team based engineering problems will drive the inquiry, innovation, communication, and problem solving that will guide us through the exploration of engineering technology. In their second year, students will identify an issue/problem and then research, design, and test a solution in an engineering field of interest. Students will ultimately present their solution to a panel of industry professionals and community members.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, grade-level evidence of proficiency in Common Core mathematics domains: Number and Quantity, Algebra, Functions, and Modeling.

Credits: 3 credits per year (1 math, 2 electives), 6 credits upon completion of two-year program.

INDUSTRIAL DESIGN & FABRICATION

Precision Measurement, CNC Programming, Precision Machining, Fall Semester

Students will learn the skills of machining by designing and building a variety of projects. Students will have input into each aspect of fabrication: purchasing, machining, construction, and testing. Students will have the opportunity to specialize in areas of design, machining, programming, while participating fully in all aspects of building class projects. Students will also have the opportunity to work on individual projects.

Metal Fabrication, Welding, Machining, Spring Semester

Students will build on their skills from the first semester through class and individual projects. They will add to their proficiency by learning welding, soldering, and brazing by designing and building a variety of class projects. Successful students will finish with a portfolio demonstrating an understanding of precision machining, welding and metal fabrication.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript and successful completion of a basic geometry class (or equivalent). Additional Proficiency Expectation: I can add, subtract, multiply, divide decimals to three decimal places. Students must complete level I fall semester before advancing to the spring semester. Students may enroll, with instructor recommendation, in level II for the second year.

Credits: 3 credits per year (1 math, 2 electives), 6 credits upon completion of two-year program.

ADDITIONAL PROGRAMS

CULINARY ARTS

This full-day program is an introduction to the food service industry and requires two semesters to complete, either both fall and spring semesters as a senior or semester 1 junior year and semester 2 senior year, or as a post-secondary option. The curriculum is driven by the operation of the Glass Onion Restaurant.

SEMESTER 1: Level I begins with the rigor of ServSafe certification; an internationally recognized sanitation credential. Students are divided into three rotating teams; cooks, bakers and customer service. **Cooks** learn knife skills, moist and dry heat cooking methods, are introduced to soups, sauces, protein preparations, grain and vegetable cookery as well as salads and appetizer preparations. **Bakers** learn a variety of breads, pastries and desserts. The **Customer Service** team experiences table service, hosting and cashiering and works with the instructor and math coach on relevant culinary math. Students maintain a culinary journal. Field trips and school-to-work opportunities create relevance and reinforce what is learned in the classroom.

SEMESTER 2: Level II is more individualized training based on the student's career objective. More emphasis is given to menu planning, nutrition, cost of sales and kitchen management. Students gain catering experiences, in-depth work experience in area businesses to qualified students and exposure to selected international cuisine.

Prerequisites: Culinary I: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, successful completion of one math class. Culinary II: successful completion of Culinary I and instructor recommendation.

Credits: 6 credits (1 science, 5 electives) upon completion of both levels. A cooperative agreement with a college offering dual enrollment has been initiated and qualifying students may have the opportunity to earn college credits.

HUMAN SERVICES

This program prepares students for further education and career paths in early childhood education, health care, social services, and related fields.

Foundations

This course focuses on key components of human development from conception through end of life. Other areas explored include safety, nutrition, health, unique populations, and workplace readiness skills. Participation in an on-campus lab space, as well as high-quality early childhood and/or older adult programs allows students to apply their learning in authentic environments. Students who demonstrate competency in all areas are recommended for dual-enrollment status, which is offered through Vermont Technical College.

Fundamentals of Early Childhood Education (ECE)

This course offers a comprehensive examination and exploration of the ECE setting. Areas of concentration include: safety, child development, developmentally appropriate practice, nutrition, health, observation, guiding behaviors, curriculum, working with families, professionalism, and examination of national/state child care regulations. Application of learning and skills in high-quality ECE centers is a key component of the course, as is the attainment of several industry recognized credentials (IRCs). Dual-enrollment is available to those who demonstrate competency in all areas through the Community College of Vermont ([EDU-1030 - Introduction to Early Childhood Education](#)). NOTE: This class is available on both a half-day and full-day basis; full-day status is reserved for returning students who are intent on pursuing a professional career path or post-secondary studies in the ECE field.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, successful completion of two English courses.

Credits: 6 credits (1 social studies, 5 electives) upon completion of 2 years in the program (3 credits per year).

MEDICAL PROFESSIONS

This two-year program provides high school students with a unique and important opportunity to explore a variety of health careers. Through a cooperative agreement with Porter Medical Center, students will have extensive exposure to clinical areas such as emergency care, operating room, laboratory, respiratory therapy, medical/surgical nursing, radiology, cardiology and several other health occupations. Students should anticipate regular writing assignments including proper reference citations. Each year students receive First Aid/CPR for the Healthcare Provider training. During the second year, students receive training to prepare them to take the Vermont LNA licensing exam. A college-level curriculum in Medical Terminology and Human Biology is embedded in the course and students may qualify for college credit in each course through CCV.

Prerequisites: Entrance Proficiency Expectations, equivalency of 10 credits on transcript, successful completion of two English courses, two math courses, two social studies courses and two science courses including a lab-based Biology course. Completion of high school chemistry prior to the second year of the program is recommended. Successful completion of year one is required to enroll in year two.

Credits: 6 credits (1 science, 5 electives) upon completion of the two-year program. **Qualifying students can earn up to 6 college credits: 3 cr. in Medical Terminology (AHS 1205) and 3 cr. in Human Biology (BIO 1140) from CCV.**

PRE-TECH FOUNDATIONAL COURSES

(Available to all students, but designed for 9th & 10th grades. See Entrance Proficiency Expectations.)

INTRODUCTION TO AGRICULTURAL SCIENCES (Formerly Plant and Animal Science)

This is a year-long course, meeting on alternating days, where students learn about plant and animal sciences, including forestry, food production, livestock management, and soil/water conservation practices. Students will participate in the operation of the “Deep Roots Farm” and the “HCC Sugarworks” facilities, where a deep understanding of food production and land management practices will be developed. Although emphasis is placed on field work, students are required to apply critical reading and writing skills throughout the curriculum as well as foundational principles of science and math. Students will have the opportunity to participate in the FFA Horse/Dairy Judging Career Development Event. Leadership training through FFA (ffa.org) is an integral part of this course. Students will have the opportunity to be an FFA officer and learn how to run meetings and develop public speaking skills.

Prerequisite: Entrance Proficiency Expectation in reading: I can independently read informational text for understanding and apply it in a lab setting.

Credits: 120-minute class: 1 science, .5 elective. 80-minute class: .5 science, .5 elective.

INTRODUCTION TO STEM

This year-long course, meeting on alternating days, provides an introductory investigation into engineering design, industrial design, precision machining, welding and construction through immersive lab rotations, each emphasizing team building, defining the STEM Design Process, applying introductory scientific inquiry, technology, Engineering by Design scenarios, and mathematics. Successful students will apply and execute the STEM Design Process to design, fabricate, and solve a final semester project which requires the application of all three content areas. **Credits:** 120-minute class: 1 math, .5 elective. 80-minute class: .5 math, .5 elective.

MECHANICAL SCIENCE

This year-long course, meeting on alternating days, has both classroom and lab time components allowing students to study a variety of mechanical topics. Students will have the opportunity to obtain an industry certification in safe tractor and equipment operation. Students will study electrical wiring circuits including ignition systems and residential branch circuits. Students will learn basic metal fabrication skills including plasma arc cutting, stick welding and wire feed welding. Students will be able to select correct tools and methods to disassemble and reassemble

a small engine. Students will learn about small engines principles and systems: fuel, ignition, compression, the four stroke cycle and precision measurement of parts and reading specification charts to determine engine wear. Students will use small power equipment to learn different engine systems and how to perform preventative maintenance. The course culminates in the opportunity to compete in the FFA (ffa.org) Agricultural Technology and Mechanical Systems Career Development Event.

Credits: 120-minute class: 1 science, .5 elective. 80-minute class: .5 science, .5 elective.

VISUAL COMMUNICATIONS

This is a year-long course, meeting on alternating days, where students learn the fundamentals of art and graphic design, as well as basic approaches for communicating through the media arts. Students complete real design projects using traditional art materials in combination with a variety of computer programs and technology, including: Adobe Photoshop, Adobe Illustrator, scanners and digital drawing tablets. Emphasis is placed on learning the creative process, personal expression/originality and experimentation. Careers in the arts are explored and investigated. Projects include: CD cover design, greeting card design, advertising and marketing projects (logo design, drink design, billboard advertisements), and apparel design.

Desirable Qualifications: Interest in art, comfortable with computers, willingness to try new things, interest in digital and new technologies, creative spirit.

Credits: 120-minute class: 1 fine art, .5 elective. 80-minute class: .5 fine art, .5 elective. **For more information and examples of past projects, visit:** <http://viscomclass.wikidot.com/>

For more information on these programs and courses and the Patricia A. Hannaford Career Center, visit our website at: <http://hannafordcareercenter.org>. To arrange a program visit, please contact Brenda Logee, School Counseling Coordinator, at 802-382-1007 or by email – blogee@pahcc.org.

Entrance Proficiency Expectations

Purpose: Career and technical education courses at the Hannaford Career Center are designed to be rigorous so that exiting students can enter the workforce or go on for further training/education. To this end, it is important for entering students to have certain skills and abilities to realize success at the career center.

Why:

- As we move away from prerequisites in the form of transcribed credits, this is an effort to create a common language and expectations of prospective student ability and interest.
- Additionally, as students and parents “shop” their resources for fulfilling Act 77 Personal Learning Plans, such entrance proficiencies will define skills prospective students will possess in order for them to be successful in HCC programs.

What:

- Resources which were used in creating the center-wide anchor entrance proficiencies include program learning targets, HCC Habits of Work, Common Core State Standards, Next Generation Science Standards, and the Common Career Technical Core.

Who:

- Developed by instructors and administration at the Hannaford Career Center.
- Revisions made with input from teachers, school counselors, and administration from Middlebury Union High School, Mount Abraham Union High School, Otter Valley Union High School, and Vergennes Union High School.

For Students in Grades 11-12 Entering Career Center Upper Level Courses

We utilized CCSS for grade 10 and CCTC Career Ready Practices

Problem Solving: I can make sense of problems and persevere in solving them. I can reason abstractly and quantitatively. I can construct viable arguments and critique the reasoning of others. I can use appropriate tools strategically. I can attend to precision. I can look for and express regularity in repeated reasoning. I can use an informed process (scientific method, design or creative process, etc.) to test new ideas, information and practices. (CCTC) (<http://www.corestandards.org/Math/Practice/>)

Reading: I can determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. CCSS.ELA-LITERACY.RST.9-10.2

I can read and comprehend complex literary and informational texts independently and proficiently. CCSS.ELA-LITERACY.CCRA.R.10

Writing: I can translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words. CCSS.ELA-LITERACY.RST.9-10.7

Research: I can cite sources to avoid plagiarism. I can write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. CCSS.ELA-LITERACY.CCRA.W.10

Technology: I can demonstrate the ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation. I can demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school and in society. (www.fresnou.org/dept/curr/tech/PublishingImages/K12_Technology_Scope_and_Sequence.pdf)

Citizenship: I can act as a responsible and contributing citizen and employee by being conscientious of the impacts of my decisions on others and the environment around me. I can understand and articulate near-term and long-term consequences of my actions and seek to act in ways that contribute to the betterment of my teams, families, community, and workplace. (CCTC)

Math: I can reason, describe and analyze quantitatively, using units and numbers to solve problems. (VT Math in CTE Standards)

Communication: I can communicate clearly, effectively and with reason. I can use effective tone and presentation skills to articulate ideas. (CCTC)

For Students in Grades 9-10 Entering Career Center Pre-Tech/Foundations Courses

We utilized CCSS for grade 7 and CCTC Career Ready Practices

Problem Solving: I can make sense of problems and persevere in solving them. I can reason abstractly and quantitatively. (CCSS.Math) I can use a process to test new ideas, information and practices. (CCTC)

Reading: I can read informational text for understanding. I can read nonfiction texts for understanding, determining the definitions of symbols and key terms.

Writing: I can communicate using clear and coherent written language. I can write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-LITERACY.W.7.2

Research: I can conduct research using multiple and reliable sources. I can construct viable arguments and critique the reasoning of others. I can evaluate the validity of sources when considering the use and adoption of external information or practices. (CCTC)

I can gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism. CCSS.ELA-LITERACY.CCRA.W.8

Technology: I can demonstrate appropriate use of and utilize technology (word processing, researching, presenting) to convey my ideas and enhance productivity. (CCTC)

Citizenship: I can appropriately conduct myself in a group setting, contributing to my greater learning community. I can act as a responsible and contributing citizen by being conscientious of the impacts of my decisions on others and the environment around me. I think about the near-term and long-term consequences of my actions. I can demonstrate active listening and I can speak with purpose. (CCTC)

Math: I can understand and apply proportional relationships, operations with rational numbers, and linear equations. I can make sense of problems and persevere in solving them. CCSS.MATH.PRACTICE.MP1

Communication: I can use effective tone and presentation skills to articulate ideas to a variety of audiences.

Online Resources:

https://cte.careertech.org/sites/default/files/CCTC_Standards_Formatted_2014.pdf (Common Career Technical Core Career Ready Practices)

<http://www.corestandards.org/>

<http://www.corestandards.org/ELA-Literacy/CCRA/R/> (English Language Arts Standards » Anchor Standards » College and Career Readiness)

[http://education.vermont.gov/student-learning/flexible-pathways/career-technical-education/initiatives Math-in-CTE](http://education.vermont.gov/student-learning/flexible-pathways/career-technical-education/initiatives/Math-in-CTE)