



Northbridge Public Schools

Northbridge School Committee

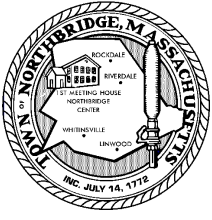
87 Linwood Avenue, Whitinsville, Massachusetts 01588 (508) 234-8156 FAX (508) 234-8469 www.nps.org

Michael LeBrasseur, Chairperson, mlebrasseur@nps.org, Joseph Strazzulla, Vice-Chairperson,
Michael Clements, Kate Tracy, Randi Zanca

Northbridge Public Schools School Committee Meeting Tuesday, February 28, 2017 6:15 PM Northbridge High School Media Center

- I. Call to Order (6:15 PM)
- II. Attendance
- III. Motion to meet in executive session pursuant to Massachusetts General Laws chapter 30A section 21(a) for the following purposes:
 - a. Purpose (2) to conduct collective bargaining with the NTA, specifically to hear the NTA Jones grievance; and
 - b. Purpose (3) to discuss strategy with respect to collective bargaining, specifically to deliberate and determine a response to the NTA Jones grievance.
- IV. Regular Session Call to Order (7:00 PM)
- V. Pledge of Allegiance
- VI. Statement of Audio and Video Recording
- VII. Statement of Mission
- VIII. Public Comment (7:05)
- IX. Presentation (7:10)
 - a. FY18 Budget Presentation as Recommended to the School Committee by the Superintendent
- X. Budget Public Comment (7:25)
- XI. Consent Agenda (7:40)
 - a. School Committee Meeting Minutes from 7PM, February 14, 2017
 - b. Warrant 37-32s 2/2/2017 \$214,448.05
- XII. Action (7:45)
 - a. Superintendent's Performance Goals
 - b. 2017-2018 Program of Studies for Northbridge High School
 - c. Appointment to Screening Committee for Town Manager

- d. Appointment to the Building Planning Construction Committee
- XIII. Discussion
 - a. Field Trip – Overnight, Out-of- State Trip for NASA ICED
- XIV. School Committee Individual Comments (8:00)
- XV. Motion to meet in executive session pursuant to Massachusetts General Laws chapter 30A section 21(a) for the following purposes:
 - a. Purpose (2) to conduct collective bargaining with the AFL-CIO, STATE COUNCIL 93, LOCAL 1709, Unit C - Custodial, specifically to hear the Custodial Boucher grievance; and
 - b. Purpose (3) to discuss strategy with respect to collective bargaining, specifically to deliberate and determine a response to the Custodial Boucher grievance not to Reconvene in Open Session
- XVI. Adjournment



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Michael LeBrasseur, Chairperson, mlebrasseur@nps.org, Joseph Strazzulla, Vice-Chairperson,
Michael Clements, Kate Tracy, Randi Zanca

Northbridge Public Schools School Committee Meeting Minutes Tuesday, February 14th, 2017 6:30 PM Northbridge High School Media Center

I. Call to Order (7:08)

II. Attendance

Michael Clements	Absent
Mike LeBrasseur	Present
Joseph Strazzulla	Present
Kate Tracy	Present
Randi Zanca	Present

Also in attendance were Superintendent Catherine Stickney, Business Manager Melissa Walker and Student Representative Connor Nowlan.

III. Pledge of Allegiance

IV. Statement of Audio and Video Recording

V. Statement of Mission

VI. Public Comment:

None

VII. Recognition

Catherine Stickney and John Zywiec recognized Emery Amtmann for the Northbridge Middle School Project 351 Representative.

VIII. Student Representative's Report

Things are going well at NHS, the new principals, have gotten acclimated and things are business as usual.

Last Friday, our drama program, performed the musical Annie. There was a great turnout and everyone did a great job.

Tomorrow, February 15th, seniors will be fitted for their cap and gown measurements.

This week is spirit week at NHS. Today was Twin/Group Day, tomorrow is Pajama Day, Thursday is America day, and Friday is class color day. This Friday we have our winter carnival, each of the grades will compete in various fun activities throughout the day. The Winter Ball will also take place on Friday.

College acceptances are continuing to come in and seniors are starting to apply for scholarships and figure out where they want to go to school.

Winter sports are beginning to wrap up, the boys' basketball team finished their season last week, the girls' basketball team is preparing for districts, and track competed last Saturday. Wrestling is going very well; James Baldwin won the sectional championship and is moving on to states. I hear the swim team and hockey have been doing well.

Game change has been meeting with students during advisory to teach students about domestic violence protection and pass along their knowledge.

IX. Consent Agenda

- a. School Committee Regular Meeting Minutes from 7:00PM on January 24, 2017
- b. Warrant 37-30s 01/19/17 \$277,090.28

The motion was made by Kate Tracy to accept the consent agenda as presented. The motion was seconded by Randi Zanca. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes
Joseph Strazzulla	Yes
Kate Tracy	Yes
Randi Zanca	Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0.

X. Action items:

a. Field Trip- Overnight Student Council Trip to Conference

The motion was made by Randi Zanca to approve the Overnight Student Council Trip to Conference. The motion was seconded by Kate Tracy. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes
Joseph Strazzulla	Yes
Kate Tracy	Yes
Randi Zanca	Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

b. Pre-School Proposal for 2017-2018

The motion was made by Kate Tracy to approve the Pre-School Proposal for 2017-2018. The motion was seconded by Randi Zanca. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes
Joseph Strazzulla	Yes
Kate Tracy	Yes
Randi Zanca	Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

c. Youth Risk Behavior Survey for NHS

The motion was made by Kate Tracy to approve the Youth Risk Behavior Survey for NHS. The motion was seconded by Randi Zanca. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes
Joseph Strazzulla	Yes
Kate Tracy	Yes
Randi Zanca	Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

d. Bullying Surveys

The motion was made by Randi Zanca to approve the Bullying Surveys. The motion was seconded by Kate Tracy. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes
Joseph Strazzulla	Yes
Kate Tracy	Yes
Randi Zanca	Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

e. SWCEC FY17 Second Quarter Report

The motion was made by Randi Zanca to accept the SWCEC FY17 Second Quarter Report. The motion was seconded by Joseph Strazzulla. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes

Joseph Strazzulla Yes

Kate Tracy Yes

Randi Zanca Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

f. School Calendar 2017-2018

The motion was made by Kate Tracy to approve the School Calendar for the 2017-2018 Academic Year. The motion was seconded by Joseph Strazzulla. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements Absent

Mike LeBrasseur Yes

Joseph Strazzulla Yes

Kate Tracy Yes

Randi Zanca Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

g. Superintendent's Formative Evaluation/Performance Goals

The motion was made by Randi Zanca to approve the Superintendent's Formative Evaluation/Performance Goals. The motion was seconded by Kate Tracy. The vote was taken by roll call vote and the following votes were recorded:

Michael Clements Absent

Mike LeBrasseur Yes

Joseph Strazzulla Yes

Kate Tracy Yes

Randi Zanca Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0

XI. Presentation:

Cindy Bourgelas (NES), Kim Dadah (Balmer and Grade5), and Patricia James (Grades 6-12) presented on English Language Learners. They discussed what an EL (English Learner) is, the number of ELs in the schools, the numerous languages that are spoken, challenges that we are faced with the increased number of ELs in the schools, changes that the state has made, and what is next.

XII. Discussion:

a. 2017-2018 Program of Studies for Northbridge High School

Aaron Katz and Amy McKinstry discussed the Program of Studies and the changes that were made.

b. Proposed Visit from Chinese Students- 4/2/17-4/9/17

Catherine Stickney discussed an opportunity for NHS to welcome students from China. Last year, through the Cambridge Institute, two students reached out and were accepted to NHS. They did choose another school as they apply to numerous amounts. This program would involve having families in Northbridge host these students. There is a stipend to help offset the costs of being a host.

c. Budget Update FY18

Michael LeBrasseur shared with committee the FY2018 draft budget. This budget was also shared at the BOS meeting. Michael discussed the process, priorities, the options to close the gap, and the next steps.

d. Appointment to Screening Committee for Town Manager

Michael LeBrasseur stated that we have the opportunity to be on the screening committee for the Town Manager. A School Committee member or an administrator may serve on the committee. This item will be an action item for the SC meeting of February 28, 2017.

XIII. School Committee Individual Comments

Joseph Strazzulla- Congrats to the Superintendent on the snow day video.

Michael LeBrasseur- Stated that he has reached out to Senators Moore and Fattman as well as Representative Muradian in regards to attending the March 28th SC meeting.

XIV. Adjournment 8:43

The motion was made by Kate Tracy to move into Executive Session: Regarding Negotiations with Non Union Personnel– Not to Reconvene in Open Session. The motion was seconded Randi Zanca. A vote was taken by roll call and the following votes were recorded:

Michael Clements	Absent
Mike LeBrasseur	Yes
Joseph Strazzulla	Yes
Kate Tracy	Yes
Randi Zanca	Yes

4 members having voted in the affirmative

0 members having voted in the negative

The motion was accepted with a roll call vote of 4-0.

EXHIBIT 1 -- ARTICLE 8.2 - PERFORMANCE OBJECTIVES

Balmer progress to Level 2 status

- a. The scores from the spring 2015 MCAS grade 4 scores will reflect a 5% increase in Proficient and Advanced in ELA and Math combined. (\$300)
- b. The scores from the spring 2016 MCAS grade 4 assessments will reflect a 5% increase in student performance rated at or above grade level as compared to 2015 an increase (TBD by June 1, 2015) in Proficient and Advanced in ELA and Math combined. (\$300)

	2014	2015	2016
ELA	39%	43%	49%
MATH	40%	39%	49%

By 2016, a 9% and 10% increase was achieved in both Grade 4 Math and ELA MCAS scores, despite the fact that Balmer’s Level status did not change.

District Curriculum Mapping

- a. By June 30, 2015, every course and subject will have a curriculum map including a pacing guide, standards, and forms of assessment located in the Atlas curriculum mapping system. (\$150)
- b. By June 30, 2016, activities and resources will be added to the Atlas curriculum mapping system. (\$150)

Mapping and accompanying lists of resources exist for all courses, grades, and subjects. However, some grades have their work in Google Drive rather than Atlas.

Improve Public Relations and Communications

- a. By June 30, 2016, the Superintendent will determine content and ensure production of 240 minutes of informational and promotional video will be created to air on Northbridge Cable, YouTube, RAMS blog, or other suitable outlets. (\$600)

240 minutes of air time has been achieved including episodes of “About the Valley”.

Expand Northbridge Career Academies

- a. By June 30, 2016 the Northbridge Career Academies enrollment for the 2016-17 school year will show an increase of 50% (TBD by September 1, 2014) over enrollment from the 2014-15 school year. (\$750)

Enrollment in 2014 included 41 students. We added 49 students in 2015 and 40 students in 2016 for a total enrollment of 130 students. We also created two additional academies.

Middle School Enhancement Plan

By June 30, 2016, the following school improvements will be implemented at NMS:

- a. A clearly articulated set of behavioral expectations for staff and students that will be consistently followed and implemented. The implementation of an electronic behavioral referral system will facilitate communication between the staff, administrators, and families. (\$150)

The SWIS behavior referral system has been implemented. The current PBIS program at NMS is very active.

- b. An afterschool program for students in grades 5-6 will be established. (\$150)

An in-house afterschool program was implemented in 2015. In 2016, Springboard began operation for students in grades 5-8.

- c. Support the establishment of a PTA/PTSA which will be operating by June 30, 2016. (\$150)

Although it is not an actual PTA organization, Mr. Zywiec formed a group of parent volunteers in the spring of 2016 led by Mrs. Wildfleur and Mrs. Bedigian. They have assisted in running book fairs and coordinating the Fall Family Fun Night.

- d. An alternative “Bridge” program will be started for 15 students in grades 7, 8, and 9 for project-based learning and community service learning. (\$150)

The Bridge Program transitioned to the high school in 2015-2016. This year, the teacher has moved back to the Middle School in the event that more students need this opportunity to transition again.

- e. An exclusive enrichment program will be implemented. This program will also provide opportunities for identified students to participate with some of the innovative programs at the HS (NASA, Systems Dynamics, Engineering, Art, DECA, Music, GIS). (\$150)

Some of the students have participated in random STEM activities with students from the Academies. Grade 8 students were allowed to choose their own electives. This year, students are participating in a “Pre-Art Academy” in Grade 8.

Total: \$2550

2017-2018 Program of Studies Updates / Course Selection

Proposed courses to be added for 2017-2018

Fine & Applied Arts

- Health and Wellness 1 (2.5 credits)
- Health and Wellness 2 (2.5 credits)
- Health and Wellness 3 (2.5 credits)
- Health and Wellness 4 (2.5 credits)
- Ceramics 3
- Ceramics 4
- Photography 2
- Senior Academy Seminar

Science

- Anatomy & Physiology CP
- Geographic Information Systems
- Advanced GIS
- Biotechnology

Social Studies

- Facing History & Ourselves

SEQUENCE OF ENGLISH COURSES

All students must take four years of English while enrolled at Northbridge High School to fulfill the 4-year graduation requirement.

Grade 9	Grade 10	Grade 11	Grade 12
		AP English Language & Composition	AP English Literature
English 1-Honors	English 2 - Honors	English 3 - Honors	English 4 - Honors
English 1	English 2	English 3	English 4
*English Concepts & Applications 1	*English Concepts & Applications 2	*English Concepts & Applications 3	*English Concepts & Applications 4

Note: A course marked with an asterisk* will be required if it is part of the student's Individual Education Plan and/or is recommended by the classroom teacher.

STUDENTS MAY ELECT:

Grade 9	Grade 10	Grade 11	Grade 12
-Broadcast Production 1 & 2 -Modeling Systems -Public Speaking -Theatre Arts 1 & 2	Any English Elective offered in Grade 9 and the following: -Creative Writing	Any English Elective offered -Advanced Broadcast Production -Go, Mr. Poe -Lit. on the Edge -Shakespearean Drama -Sports & Lit in Film	Any English Elective offered

Students may elect a course at the honors level even if they have not yet taken an honors level course in his/her program of studies.

SEQUENCE OF FINE AND APPLIED ARTS COURSES

All students must take 5 credits of computer courses and 4 years (10 credits) of Health & Wellness courses while enrolled at Northbridge High School to fulfill the 4-year graduation requirement.. Student Athletes have the option to complete a waiver to replace PE with their chosen sports or Marching Band.

STUDENTS MAY ELECT:

(Elective offerings may vary due to staffing or budget constraints)

Grade 9	Grade 10	Grade 11	Grade 12
ART: -Architectural Design -Art 1 -Art 2 -Ceramics 1 -Ceramics 2 -Sculpture	Any Elective offered in Grade 9 and the following: -Ceramics 3 -Ceramics 4	Any Elective offered in Grade 9 & 10 and the following: -Advanced Drawing & Mixed Media	Any Elective offered in Grade 9, 10 & 11 and the following: -AP Studio Art -Studio Art
MUSIC: -Concert Band -Concert Choir -Music Appreciation -Percussion Fundamentals	Any Elective offered in grade 9 and the following: -Music Theory 1 -Music Theory 2	Any Elective Listed	Any Elective Listed
BUSINESS: -Financial Literacy Money Matters -Intro to Marketing	Any Elective offered in Grade 9 and the following: -Accounting 1 & 2 -Advertising & Promotion -Entrepreneurship -Indiv. Business Concentration -Sports & Entertainment Mktg.	Any Elective Listed	Any Elective Listed
COMPUTER: -Computer Applications -Comp. Programming 1 & 2 -Digital Imaging -Exploring Computer Science 1 & 2 -Graphic Design 1 & 2 -Intro to Animation -Intro to Photography -Photography 2 -Web Page Design 1 & 2	Any Elective offered in Grade 9	Any Elective offered in Grade 9 & 10 and the follow: -AP Computer Science	Any Elective Listed
PE & HEALTH: -Health & Wellness 1	-Health & Wellness 2	-Health & Wellness 3	-Health & Wellness 4

SEQUENCE OF MATHEMATICS COURSES

All students must take four years of mathematics while enrolled at Northbridge High School to fulfill the 4-year graduation requirement.

Grade 9	Grade 10	Grade 11	Grade 12
Algebra 2-Honors	Geometry-Honors Or AP Statistics	Trigonometry-Honors Pre-Calculus 1-Honors	AP Calculus AB Or AP Statistics
Algebra 1-Honors	Geometry-Honors	Algebra 2-Honors	AP Statistics Or Trigonometry H & Calculus H Or Statistics H & Probability H
Algebra 1	Geometry	Algebra 2	Advanced Topics Math 1 & 2 Or Trigonometry 1 & Calculus
			Consumer Finance
*Mathematics Concepts & Applications 1	*Mathematics Concepts & Applications 2	*Mathematics Concepts & Applications 3	*Mathematics Concepts & Applications 4

SEQUENCE OF SCIENCE & TECHNOLOGY/ENGINEERING COURSES

All students must take three years of lab science classes while enrolled at Northbridge High School to fulfill the 4-year graduation requirement One year of Biology and Chemistry are required in order to graduate (may differ if on Engineering path).

Grade 9:	Grade 10:	Grade 11:	Grade 12:
Engineering the Future-Honors	Chemistry- Honors	Physics- Honors Physics	Students may elect from the list of course offerings below
Biology - Honors	Chemistry	Anatomy & Physiology-Honors	
Biology		Anatomy & Physiology	

Engineering Academy students should take Biology in 10 grade and Chemistry in 11th grade

STUDENTS MAY ELECT:

(Elective offerings may vary due to staffing or budget constraints)

Grade 9:	Grade 10:	Grade 11:	Grade 12:
-Architectural Design -CAD 1	-AP Biology -Botany -NASA-ICED -*Wildlife Biology 1	Any Science & Technology Course listed for Grade 9 & 10 -*AP Chemistry	Any Science & Technology Course listed for Grade 9-11 -*Advanced GIS -*AP Physics

		-*AP Environmental Science -Biotechnology -*Environmental Science -GIS -*Microbiology -*Pathophysiology -*Wildlife Biology 2	-Science Lab Technician
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**-Denotes qualification of a lab science*

SEQUENCE OF SOCIAL STUDIES COURSES

All students must take three years of social studies while enrolled at Northbridge High School to fulfill the 4-year graduation requirement. The required classes include World History, American Studies 1 and American Studies 2, or the equivalents.

Grade 9:	Grade 10:	Grade 11:	Grade 12:
World History Honors	Pre-AP US History Honors	AP US History	Any Elective Offered Below in Grades 10 & 11
	American Studies 1 Honors	American Studies 2-Honors	
World History	American Studies 1	American Studies 2	

STUDENTS MAY ELECT:

Elective offerings may vary due to staffing or budget constraints

Grade 9:	Grade 10:	Grade 11:	Grade 12:
	-Eastern Cultures -Western Cultures	Any course Listed in Grade 10 and/or: -Citizenship in Action -Homeland Security -Law -Facing History & Ourselves -Psychology	Any electives Offered in Grades 10 & 11 -AP Government & Politics -AP Psychology

SEQUENCE OF WORLD LANGUAGE COURSES

Students must take a minimum of two years of a language sequence at the high school level (a minimum of 10 credits) as recommended by the Massachusetts Board of Higher Education as minimum standards for admission to the Commonwealth's four-year public institutions. Three years of a language is highly recommended. Languages are full-year courses and must be taken chronologically.

Grade 9:	Grade 10:	Grade 11:	Grade 12:
French 1 Honors	Students May Elect Any	Students May Elect Any	Students May Elect Any

French 1 Spanish 1 Honors Spanish 1	Grade 9 Course Offering French 2 Honors French 2 Spanish 2 Honors Spanish 2	Grade 9 and/or Grade 10 Course Offering French 3 Honors French 3 Spanish 3 Honors Spanish 3 Spanish 4 Honors Pre-AP Spanish 4 Honors	Grade 9, 10 or 11 Course Offering AP Spanish Language & Culture
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2017-2018

**NORTHBRIDGE HIGH SCHOOL
PROGRAM OF STUDIES**



NORTHBRIDGE HIGH SCHOOL



Aaron Katz, Guidance Director
Catherine Green, Guidance Counselor
Lauren Hubbell, Guidance Counselor

427 Linwood Avenue, Whitinsville, MA 01588
(508) 234-6221 FAX (508) 234-0802
www.nps.org

Paul Collins, Psychologist
Jenna Damato, Adjustment Counselor

Dear Students and Parents/Guardians:

Welcome to the 2017-2018 school year. Northbridge High School's *Program of Studies Guide* is an important resource designed to help you make informed decisions regarding your selection of courses. Please review this carefully before selecting classes for the 2017-2018 academic year. When choosing courses, prerequisite requirements are strictly adhered to and teacher recommendations are final.

**Any appeal for a course change must be done through the principal and will require a joint meeting with student, parent(s)/guardian(s), content area teacher and guidance counselor.

Here are some strategies that you will find helpful as you prepare for the next school year:

Read ... the *Program of Studies Guide* from cover to cover. Each page is full of helpful information and strategies for selecting a program of study. You will want to make note of any prerequisites, course levels, course descriptions, etc.

Utilize...the sequence of course options found at the beginning of each academic discipline so that you may plan for your high school years.

Review...the information together – students and parents – and ask questions of guidance counselors and teachers. Informed decisions make for good choices.

Select...the appropriate courses based on your personal and academic needs, not those of your friends. Course placement will be determined by a number of factors including previous grades, standardized test data, and teacher recommendations.

Explore...*The Program of Studies Guide* offers challenges, opportunities and new learning adventures.

We are confident that this selection process will be the start of a personally enriching and successful high school experience. We invite you to visit with us personally, via e-mail, phone calls or by visiting our NHS website at www.nps.org.

Sincerely,
The Northbridge Guidance Department

Accredited by the New England Association of School and Colleges (NEASC).

It is the policy of the Northbridge Public Schools not to discriminate on the basis of race, gender, religion, national origin, color, homelessness, sexual orientation, gender identity, age or disability in its education programs, services, activities or employment practices.

Northbridge High School

Mission Statement and Expectations for Learning

The mission of the Northbridge High School Community is to provide an educational experience committed to high expectations and diverse learning opportunities for all students. Northbridge High School honors tradition and embraces change and innovation. Together, we encourage Responsibility, Achievement, Mutual respect and Service.

Expectations for Student Academic Performance

Northbridge High School students will:

1. Read, write and communicate effectively
2. Think critically and engage in problem solving
3. Work independently, collaboratively and creatively
4. Utilize appropriate technologies

Expectations for Student Social Performance

Northbridge High School students will:

1. Participate in a variety of school and community activities
2. Accept responsibility for choices and actions
3. Treat everyone with respect and appreciate diversity

Expectations for Student Civic and Economic Performance

Northbridge High School students will:

1. Develop an understanding of the democratic process and its resulting civic responsibilities
2. Develop economic responsibility and management strategies

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CLASS RANK

Northbridge High School **does not** calculate class rank for the purposes of reporting to colleges or other outside agencies. An internal rank is available with the Building Principal and/or Guidance and is used solely to determine Valedictorian and Salutatorian for graduation festivities.

GRADE POINT AVERAGE

A weighted Grade Point Average will be determined for all Northbridge High School students. The Grade Point Average (GPA) will be based on final grades received in all classes. GPA will be calculated at the end of every school year and after the first semester of senior year. Weight shall be given to honors level and Advanced Placement classes according to the following scale:

GPA Conversion/Weighted Grade Values

<u>Numeric</u>	<u>Alpha</u>	<u>AP</u>	<u>Honors</u>	<u>CP & CP 2</u>
100-97	A+	5.3	4.8	4.3
96-93	A	5.0	4.5	4.0
92-90	A-	4.7	4.2	3.7
89-87	B+	4.3	3.8	3.3
86-83	B	4.0	3.5	3.0
82-80	B-	3.7	3.2	2.7
79-77	C+	3.3	2.8	2.3
76-73	C	3.0	2.5	2.0
72-70	C-	2.7	2.2	1.7
69-67	D+	2.3	1.8	1.3
66-63	D	2.0	1.5	1.0
62-60	D-	1.7	1.2	0.7
59-0	F	0.0	0.0	0.0

CLASS STANDING CREDITS

A student transitions to the next grade level if he/she has earned cumulative credits and has the potential to earn total credits required for graduation in his/her identified class. Students will be placed on grade level probation, and identified as repeating a grade, if they are unable to attain the required number of cumulative credits for graduation in the current class. All students are provided with adequate opportunity to fulfill these requirements.

CREDIT DISTRIBUTION AND GRADUATION REQUIREMENTS

Core Curriculum

English	20.0
Fine & Applied Arts	
Computers	5.0
Health & Wellness	10.0
Mathematics	20.0
Science	15.0
Social Studies	15.0
Elective Distribution Credits	<u>35.0</u>
	120.0 Total Credits

To be eligible to receive a diploma, all students must fulfill the requirements of the Massachusetts Comprehensive Assessment System (MCAS) testing and the Northbridge High School; specifically 85 credits in core disciplines; 35 credits of electives, which are offered in all areas. Our Program of Studies is progressing towards being 100% aligned with the recommended Department of Elementary & Secondary Education (DESE) MassCore.

COMMUNITY SERVICE HOURS GRADUATION REQUIREMENT

Initiating with the Northbridge High School (NHS) Graduating Class of 2017, all students will be required to complete twenty (20) hours of community service as a graduation requirement compiled over a four (4) year (or more) period of time. Hours can be accumulated in any increment over that period of time. For example, 5 hours per year times 4 years equals 20 hours, 10 hours times 2 years equals 20 hours, etc. Students can use athletic, National Honor Society, or any other NHS club or organizational community service hours to fulfill this requirement. Service hours can also derive from community organizations, places of worship, or similar institutions. Students who enter NHS after their Freshmen year will have their hours pro-rated, i.e. entering NHS as a Junior equals 10 hours to fulfill the requirement. NHS will also provide yearly opportunities for service hours for students who have limited access to this requirement. All hours will be documented in NHS' Advisory Block by the Advisory Supervisor.

COURSE LEVELS

All curricular offerings are designed to challenge a student to excel to the best of his/her ability. The school recommends placement decisions based on standardized testing results, past academic performance, student interest, teacher recommendation, and parental request. Students are placed in levels where they will meet with the greatest potential for success. Placement levels may vary in different subject areas; and, it is very common for students at the high school level to be placed appropriately at both the College Prep or Honors level which is determined by a student's individual strengths and targeted areas for growth. For example, a student may be placed in College Prep English and an Honors Mathematics course. Curricular offerings are developed in concert with state and national frameworks with a focus on technology integration, writing across the curriculum, and presentation.

Four levels of coursework are offered: **Advanced Placement, Honors, College Prep and Enrichment.** All students are given a course expectation sheet for each course that includes grading rubrics, materials, and overall requirements in order for all students to meet with success.

Advanced Placement (AP) courses afford students the opportunity to earn college credit while still in

high school. These courses are the most rigorously challenging in the curriculum. Maximum initiative and extensive independent work are essential for success. Summer assignments may be used to assist students in preparation for these courses. To receive Advanced Placement course credit, students are required to take the College Board AP exam in May. AP Students are expected to attend one Saturday Study Session per course, hosted at NHS.

On average, AP students can expect *at least* one (1) hour or more of study or activity to reinforce the day's lesson and/or prepare for the next class session. Advanced Placement courses are identified by a course number ending in **5**.

Honors courses are suggested for students who have demonstrated outstanding achievement in the subject area. Honors students must be able to demonstrate advanced competencies in reading, writing, speaking, comprehension, research, and applications skills. Curriculum and instruction focuses on deeper student understanding of important ideas, skills, concepts, and knowledge rather than on covering a wide array of material (depth of understanding vs. breadth of knowledge). Honors courses present material at an accelerated and rigorous pace. Students who elect Honors courses must be self-directed learners who will work to improve their abilities to analyze, synthesize, and evaluate complex material within the subject area. Honors courses are identified by a course number ending in **2**.

To qualify for an Honors course, students must demonstrate potential for success through achievement in that subject's foundation courses. On average, Honors students can expect up to one (1) hour of study or activity to reinforce the day's lesson and/or to prepare for the next class.

****All other courses not designated as AP or Honors are considered College Preparatory courses.***

College Preparatory courses are designed to prepare students for two-year and four-year college programs. Students who enroll in College Prep courses must have demonstrated competencies in reading, writing, speaking, comprehension, using concepts, and study skills. Students are expected to become active, self-directed learners who will work independently and cooperatively. These students will be challenged to focus on gaining a deeper understanding of more complex ideas, theories, and advanced skills and concepts.. All College Prep level courses are identified by a course number ending in **1**.

Enrichment (non-weighted) This level of study permits a student to expand his/her learning horizons, accept a personalized challenge in an uncharted area, explore an occupational possibility, initiate a career pathway, or merely investigate an intriguing topic. This level enables all students to set high academic expectations for them by becoming self-directed learners.

This level of study allows a student the opportunity to elect course(s) without affecting the student's grade point average (GPA). Students may elect one (1) half-year course each semester or (1) full year course. The total enrichment credits awarded may not exceed 5.0 in any one school year. Any course taken at the Enrichment level will appear on the student's transcript along with the grade, which is issued, consistent with our grading values.

Students are expected to meet any course prerequisites. Students who enroll in a course at the Enrichment level are held to the same expectations as all other students in that course.

To schedule an Enrichment course, a student must complete an application form *prior* to enrollment. The application form will be made available through guidance at the time we begin the scheduling process. This option is available to 11th and 12th grade students. The time-frame for designating a course at the "Enrichment" level must be made prior to the issuance of the 1st progress report in that course. All

courses designated as “Enrichment” are subject to the same policies as any other course at any other level.

STUDENT SUPPORT SERVICES

Northbridge High School offers support services to all students. The purpose of these services is to provide for a successful transition and experience throughout his/her high school years and to work proactively to address issues that may otherwise impede a student’s growth and progress.

PSYCHOLOGICAL & COUNSELING SERVICES

School Psychologist

Our district school psychologist provides health and psycho-educational services such as testing, evaluation, consultation and counseling. Students will also have access to the school psychologist who helps students with issues around crisis intervention, student advocacy, adjustment to high school, substance abuse, and other pertinent adolescent issues. The school psychologist is a member of the Early Intervention Team (EIT).

School Adjustment Counselor

Our school adjustment counselor is accessible to students who require help with conflict or crisis intervention, student advocacy, adjustment to high school, substance abuse, and other pertinent adolescent issues in a confidential setting. The school adjustment counselor can help facilitate the referral process for outside counseling and school-based counseling services. The school adjustment counselor works closely with administrators, teachers, school and community health professionals to provide short-term counseling interventions and consultation, in hopes of refocusing students to their learning. The short-term counseling interventions may include individual and group counseling. Groups will be skill-based and focus on psychoeducation per the needs of the student body.

English as a Second Language (ELL)

This course is designed to advance English language development and promote academic achievement by strengthening social and academic language in listening, speaking, reading, and writing. Focus is also given to academic habits of thinking, standards that cut across all content areas, and cultural knowledge. This class is for students who qualify for English Language Learner services in accordance with guidelines set forth by the Massachusetts Department of Elementary and Secondary Education.

HEALTH & WELLNESS CENTER

The Health & Wellness Center is staffed by a full time registered school nurse. The school nurse provides a full range of health care services during the school day including, but not limited to student dismissals from a school day, planned disbursement of prescribed medicine, mandatory health screenings and substance abuse/use assessments. The school nurse is a member of the Student Support Team (SST).

EARLY INTERVENTION TEAM (EIT)

This Team will assist in identifying students who may require additional support in areas such as academic, behavioral and/or social-emotional. Meeting as needed, the team’s proactive approach is designed to develop strategies to meet the needs of individual students. Any faculty or staff member may refer students to the EIT by completing the referral form.

EXTRA HELP SESSIONS

Teachers are available after school to provide help and assistance to students. All teachers will announce and post their extra help days in their classroom. Teachers may assign extra help sessions to students

whenever they feel the student is not working at his/her full potential or whenever absences are impacting overall performance. These sessions often provide the student with the one-on-one support and remediation necessary for him/her to attain a grade that is reflective of his/her personal academic best. Students with grades below 65 in a core class are required to attend extra help sessions.

SAT EVENING PREP PROGRAM

An eight-week SAT prep (separate nights for critical reading/writing and mathematics) may be offered during the spring semesters just prior to the May test dates. The classes would be two hours in length each night. Students will be required to pay a fee for these classes.

CREDIT RECOVERY COURSES

Credit recovery courses are designed to give students, typically seniors, who have lost credits, and are in danger of not graduating, additional options for recovering some or all of the credits they need to reach the credit requirement for graduation. Each course is 2.50 or 5.00 credits. Classes may be Pass/Fail and a fee will be charged.

SPECIAL EDUCATION SERVICES

The Special Education mission is based on the individual needs of the students and is aligned with School and State guidelines. Each student with appropriate assistance based on his or her Individual Education Plan (IEP) will:

- Develop a sense of self-worth and accomplishment through academic success
- Meet his or her needs through multi-modal approaches learning to compensate for weaknesses and identify strengths within the appropriate setting
- Be competent in his or her abilities to be successful in school and life
- Foster a sense of participation to be an active member of the community
- Obtain skills necessary to achieve independence and be productive members of society
- Develop a transition plan from grade to grade and post-high school education or employment opportunities

The Special Education department is committed to assist all students to reach their potential as individuals.

INTERVENTION BLOCKS

R6013 ENGLISH LANGUAGE ARTS CONNECTIONS

5.0 Credits

This course is designed to provide direct, small-group support for students in ELA classes who are struggling to achieve mastery on their grade-level ELA standards. Basic objectives of ELA intervention are focused on closing the gap between the student's present level of performance and the level of performance needed to be successful in ELA. Instruction focuses on increasing student reading comprehension, increasing writing skills and organization, and improving proficiency on the ELA standards. The goal for this course is to help students achieve ELA success by intensively targeting standards that each student is struggling with based on data from individual standards-based assessments.

R6014 MATH CONNECTIONS

5.0 Credits

This course is designed to provide direct, small-group support for students in math classes who are struggling to achieve mastery on their grade-level math standards. This course includes a well-sequenced program of instruction that logically builds on existing skills and periodically returns to previously mastered skills to ensure maintenance, demonstration of correct and incorrect responses, and substantial opportunity to practice performing newly learned skills with direct support (especially immediate corrective feedback) followed by more independent practice. The goal for this course is to help students achieve math success by intensively targeting standards that each student is struggling with based on data from individual standards-based assessments.

NORTHBRIDGE ALTERNATIVE EDUCATIONAL PROGRAM

The mission of Northbridge High School's Alternative Education Program (NAEP) is to give students in need the chance to succeed academically, behaviorally and socially/emotionally. Students in the program will be given the opportunity to access individualized supports as needed throughout the school day. The program is supported by a school adjustment counselor, a special educator and behavior technicians.

NEW HORIZONS: INTENSIVE SPECIAL NEEDS PROGRAM

The classroom is a substantially separate resource room that supports students in grades 9-12 as well as post graduates who have disabilities that affect their ability to be fully included in a general education classroom. The program provides the appropriate setting for students to work on measurable goals based on their individual education plans. The focus of our classroom is on the academic, communicative, emotional, social and physical well-being of students within the public school setting. The program allows for students to build and master life skills with collaboration with families/caregivers, para-professionals, therapists, counselors, teachers and administration. We are providing opportunities for students to become successful members of society.

SCHOOL-BASED SPEECH LANGUAGE PATHOLOGIST

Speech and language pathologists promote the development of communication within the educational environment through remediation or improvement of communication and swallowing disorders. Services are provided through direct individual and small group pull out treatment, classroom inclusion, and consultation with educators and family members of the students. Speech and language pathologists focus on prevention, improvement, and correction of disorders in: articulation, fluency, voice, receptive language, expressive language, cognitive communication, swallowing, hearing, social pragmatics, and communication modalities.

GUIDANCE

The Guidance Program at Northbridge High School helps you to prepare for higher education and meaningful employment. Guidance Counselors reinforce the personal and social skills needed for the many responsibilities of citizenship and adulthood. They provide a wide range of services including course selection and program planning, college choice/application, career planning, decision-making, student advocacy and character education. Counselors will see you individually, in small groups, and in the classroom. They host and facilitate parent workshops in college admission and financial aid, are an integral part of student service programs and school initiatives, and they are an important resource for teachers, parents, and the school administration. Guidance Counselors help you to gain personal independence and to take responsibility. They help you to set appropriate goals, to solve problems, and to make good decisions. You will work with your counselors on personal, social/emotional, education, and

career issues.

Naviance/Family Connection, the web-based college, career, and communication network links students and families with the resources and information necessary for academic and postsecondary planning. All students and parents are given a Naviance/Family Connection account, and are encouraged to check it often. Through Naviance, the Guidance Department provides comprehensive information on all matters relating to academic and vocational success. Department forms, news and events, scholarship and award opportunities are regularly updated and serves as an essential communication tool for families.

At all grade levels counselors will:

- Assess the appropriateness of your placement
- Monitor your overall academic and developmental progress
- Review past school performance
- Assist you in setting short and long term goals
- Communicate with your parents if you are experiencing difficulties
- Identify if you may need support services
- Explore your interests and activities
- Coordinate the dissemination of scholarships/awards information
- Serve as immediate support and intervention personnel and as referral agents
- Schedule parent/teacher conferences as needed

MASSACHUSETTS STATE COLLEGES AND UMASS MINIMUM ADMISSIONS REQUIREMENTS

The admissions standards for the state colleges and UMass emphasize a strong academic high school background so that students enter college ready to learn. These standards represent minimum requirements; meeting them does not guarantee admission, since campus officials consider a wide range of factors in admissions decisions. Students shall have fulfilled all requirements for the high school diploma or its equivalent upon enrollment. *It is important to note that admissions standards for the state's community colleges differ. Community colleges may admit any high school graduate or GED recipient.*

FRESHMAN APPLICANTS

The admissions standards for freshmen applicants have two main parts:

1. 16 required academic courses
2. A minimum required grade point average (GPA) earned in college preparatory courses completed at the time of application

Applicants must also submit an SAT or ACT score (directly from collegeboard.org or actstudent.org).

ACADEMIC COURSE REQUIREMENTS

Sixteen college preparatory courses distributed as follows are required. (A course is equivalent to one full school year of study. Courses count toward the distribution only if passed.)

- English: 4 courses
- Mathematics: 4 courses (Algebra 1 & 2 and Geometry or Trigonometry, or comparable coursework) including mathematics during the final year of high school
- Sciences: 3 courses (drawn from Natural Science and/or Physical Science and/or Technology/Engineering) including 3 courses with laboratory work
- Social Sciences: 2 courses (including 1 course in U.S. History)
- Foreign Languages: 2 courses (in a single language)

-Electives: 2 courses (from the above subjects or from the Arts & Humanities or Computer Sciences)

MINIMUM REQUIRED GRADE POINT AVERAGE (GPA)

The GPA must be achieved based on all college preparatory courses completed at the time of application and should be weighted for accelerated (Honors or Advanced Placement) courses. The required minimum weighted high school GPA is 3.0 for the four-year public campuses.

State College GPA
3.0

University GPA
3.0

SAT SCORES

Applicants who meet the GPA requirement do not have to use the sliding scale for admission, but still must submit SAT or ACT test scores for consideration if they are applying to a state college or UMass within three years of high school graduation. If an applicant's GPA falls below the required minimum, a sliding scale will apply. *This scale should be used only when an applicant's GPA falls below the required 3.0 minimum for admission to the state colleges or UMass.* Scores on the new writing section of the SAT will not affect the sliding scale for freshman applicants to the Massachusetts state colleges and to the University of Massachusetts at this time. The sliding scale, used in making admissions decisions for students with high school grade point averages falling below the required minimum, will continue to be based upon the combined critical reading (verbal) and math sections of the SAT.

For more information and to view the sliding scale please visit:

www.mass.edu/forstudents/admissions/admissionsstandards.asp

SCHEDULE CHANGE PROCEDURE

ADD/DROP PERIOD

It is encouraged that students solidify their schedules prior to the start of the school year; but it is understood that circumstances may occur that will require change. Students must make the schedule changes via email or by appointment prior to each semester. **There will not be an add/drop period.** A level change during a term may be permitted if approved by the classroom teacher and a parent/guardian.

SUMMER SCHOOL POLICY

ELIGIBILITY

Students may earn credit for a failed course by attending summer school. Students must receive a minimum average of 50% in the course failed. Written documentation of the summer school program attended will be required if the student attends a program outside of the Northbridge High School District.

SCHOOL TO CAREER CONNECTIONS

Northbridge High School offers you an opportunity to participate in a variety of school to career connected activities. These programs enrich the high school experience and provide career, academic, service, and self-directed opportunities. Additionally, these programs offer you an experience with the same academic rigor, expectations and diverse learning opportunities as stated in our mission statement. These opportunities are available if you are in grade 12 and with prior approval if you are in grade 11. You are awarded enrichment course credit. You must complete an application and all necessary forms and receive approval from the principal for participation in any of the activities listed below. Application for participation does not guarantee acceptance. Any off campus experience will require parental consent and

completion of the district's extracurricular form prior to participation. You are required to provide your own transportation.. No more than 5.0 credits will be awarded in any one school year for successful completion of enrichment level school to career connection experiences.

G6021 FLEX WORK STUDY

2.5 Credits

Northbridge High School is committed to providing you with varied opportunities to explore and expand your post-high school options by encouraging your participation in career-oriented opportunities. This program allows you to earn elective credits through a structured work-study program at an approved off-campus work site. Information regarding this program and the process by which you may apply to participate is available in the guidance office. All applications must be approved by Administration.

G6041 NORTHBRIDGE ELEMENTARY SCHOOL TUTOR

2.5 Credits

The Tutoring program is intended to allow you to help support, educate, and guide elementary level students in a classroom setting or in a one-to-one relationship. Students interested in a career in education or related fields are given the opportunity to assist a teacher in a classroom and/or mentor individual students at the Elementary and Balmer Schools. Information regarding this program and the process by which you may apply to participate is available in the guidance office.

G6051 PEER TUTOR

2.5 Credits

The Tutoring program is intended to allow you to help support, educate, and guide students in a classroom setting or in a one-to-one relationship. If you wish to become a tutor, you should possess a willingness to help other students and a sensitivity to their needs. No more than 2.5 credits per semester is allowed per student, with the permission of the building Principal.

D1000 ADVISORY

1.25 Credits

Our Advisory program is based on the belief that students need the opportunity to develop trusting relationships with adult educators, and that doing so benefits students in a variety of ways. Advisory will be a small group, supportive classroom setting for students to connect with peers and teaching staff to proactively address the needs of the students. The NHS vision is to build relationships between students and faculty to help students achieve attainable academic and behavioral goals and to improve the school's community. Students will earn 1.25 credits for this course on a pass/fail basis. The NHS attendance policy will apply to this course. The guidance department will assign all students to an advisory that they will remain in for all four years of high school. Requests to change sections will only be granted by the high school Principal.

G8001 AP ACADEMIC CONNECTION

1.25 Credits

In order to support you with your AP course load, juniors and seniors enrolled in at least two (2) AP courses may enroll in an AP Academic Connection (limit one per semester). The primary goal for this time is for you to engage productively in academic/curriculum related activities. You must adhere to the guidelines in order to remain in this course. A teacher will be available to monitor students and will take place in a classroom setting.

G6061 LIBRARY ASSISTANT

1.25 Credits

Students enrolled in this program will assist the Library Media Specialist. You will be taught how to perform various library activities such as checking books in and out, shelving returned books, processing new books and maintaining organization in the Media Center. You will also assist students with the selection of appropriate reading and research materials. Students interested in taking this course must obtain approval from their guidance counselor and the Library Media Specialist prior to enrollment of the course.

INDEPENDENT & OUTSIDE LEARNING OPPORTUNITIES

INDEPENDENT STUDY PROGRAMS – AP, HONORS, CP

2.5/5.0 Credits

You may request a meeting with your counselor to discuss possible independent study options. This option may be appropriate for you if you have a specific academic interest and have taken all available related courses. An application may be obtained through guidance and the supervising teacher, the department chairperson, and the principal must approve all independent study programs prior to scheduling.

DUAL ENROLLMENT/ 12TH YEAR COURSES – AP, HONORS

Qualified high school students can earn both high school and college credit through enrollment in approved post-secondary study. AP credit will be awarded if this course description and expectations exceeds those levels of study offered by Northbridge High School in the content area and is equivalent or greater than an AP level class. Dual Enrolled students need to be enrolled in at least 3 courses for both semesters in order to participate. To be athletically eligible, per MIAA regulations, you need to pass 4 courses per semester. If you are interested in dual enrollment, you should see your guidance counselor.

ELIGIBILITY:

- You must be in your junior or senior year of high school
- You must have a “B” Average or higher, be recommended by your principal, teachers, or guidance counselors and have written approval of your parent/guardian, and be pre-approved for credit at a specified level before beginning any coursework
- You must be placed in college course after taking a College Placement Test
- All related costs for dual enrollment are the responsibility of the student/parent/guardian
- You will receive credit towards graduation for any approved and successfully completed course

VIRTUAL HIGH SCHOOL – AP, HONORS, CP

2.5/5.0 Credits

Imagine classrooms without walls, where students are able to attend their classes 24 hours a day, seven days a week. Imagine students working cooperatively online with others from a wide variety of ethnicities, backgrounds and geographic locations. These opportunities are available to you through the Virtual High School (VHS) program. VHS courses are also the wave of the future in preparing students for college and a great way to learn more about a specialized area of interest. VHS courses are for independent learners that are self-motivated and in good academic standing. Students may visit www.govhs.org for a full list of courses available. Seats are limited and students must apply early. Students may take a VHS course in addition to their regular schedule or have the course scheduled into their school day. It is preferred that students have internet access from home but not required. For more information and to obtain an application please see the VHS coordinator or your guidance counselor.

NORTHBRIDGE CAREER ACADEMIES

-<https://sites.google.com/a/nps.org/nhsacademies/>

- Choose from one of seven Academies
- Begin by meeting with your High School Advisor this spring
- Spend time shadowing other high school students this spring who are participating in current programs
- Attend a free, three-week career exploration program (SCIP) that will give you credit toward graduation
- Create an Individual Learning Plan, which outlines course options based upon your interests

SCIP SUMMER PROGRAM

2.5 Credits

Students will participate in a three week program that includes exploration of college and career options, while becoming familiar with the high school, Naviance, and course trajectories. Students will complete a research project on a career to present to an audience upon program completion.

ART ACADEMY

The Northbridge Fine Arts Academy offers a program of study that allows students to explore 2D and 3D art forms at high academic rigor, explore career opportunities, and develop a professional grade portfolio for display and college acceptance. The Fine Arts Academy offers students the opportunity for self expression while refining flexibility, planning, creativity, and real world problem solving skills. As part of the Fine Arts Academy upperclassman will participate in a mentorship program with students in the middle school who also share an interest in the arts. Students will also gain exposure and widen their understanding of art and culture through museum visits, meeting and talking to professionals in the field, community service opportunities, and subject specific college visits. Upon program completion students will have a portfolio that adheres to AP college board standards, experience displaying their work, an understanding of the art world both historically and today, and skills that apply to careers in any field.

BUSINESS ACADEMY

The Northbridge Business Academy is committed to providing students with the business knowledge, communication and technology skills necessary to excel in college and the workplace. The program will provide students with a rigorous, dynamic and interpersonal academic and project-based business program, with a culminating capstone which will foster critical and creative thinking relevant to today's business environment. Contact the Department Chairperson for more information on this innovative and exciting program.

COMMUNICATIONS ACADEMY

Computer Pathway: Students interested in a computer-based career field will have a faculty advisor to help guide them to the career of their choice. Students with an interest in Graphic Design, Programming, Animation, Game Design, Web Design, Photography (and more) will be given individual programs of study to bolster their content knowledge for further preparation for college or career. Students will maintain a 75% average in all of their computer courses to stay within the academy. They will complete an online portfolio project to be started freshman year and finished senior year. Field trips, guest speakers and college visits may be part of the program.

Broadcast/Media Pathway: The Communications Academy is also for students thinking of entering the television and broadcast career world. Students will explore different areas of broadcast such as broadcast journalism, short film and music videos. Students will have the opportunity to learn the different jobs and roles in the broadcast field: namely, directing, editing, videography, sound and on-air talent. The Broadcast Academy is very hands-on and student-centered. Students will participate in the

filming of school events as well as class projects, many of which will be shown on local cable as well as the school. The class is also taught by a former Television Broadcast News Producer who has worked all over New England. Students will learn the skills needed to succeed in the broadcast world from someone who has been there first-hand.

ENGINEERING ACADEMY

Northbridge Engineering Academy offers a comprehensive list of courses that enable our students to explore different areas of engineering and geospatial technology. Engineering and Technology is one of the few industries where job openings still outnumber applicants, and the majority of employees earn at least a six figure salary. These are some of the reasons that we ask you to join us on an exciting, dynamic path where you Engineer your own Future. If you enjoy learning how and why things work, a hands-on learning environment, developing new solutions to the world's problems, studying the environment, and making a global difference, then the Northbridge Engineering Academy is for you!

HEALTH SCIENCE ACADEMY

The integration of rigorous academics, inquiry-based science instruction, and applied learning laboratories for developing and strengthening students' science, math, and literacy skills will create an environment within which students can master the multi-dimensional abilities required of them for success in college and a career in the health sciences. The goal of the program is to expose our students to a variety of laboratory based courses that promote active engagement in content material. Courses are intended to expose students to the many options within the health sciences such as; medicine, bioengineering, genetics, veterinarian, wildlife rehabilitation/biology, forensics, botanist; in the hopes of fostering their interest in pursuing a career in a Health Science field.

JUSTICE ACADEMY

For students wishing to pursue a career in the social sciences; namely, law enforcement, political science, homeland security, psychology, or history. Students will engage in a rigorous, dynamic, and interpersonal academic and project-based programs, with the opportunity to earn a certificate of achievement and recognition at graduation for your work in the academy. Students have opportunities to network and gain real-world experience in their fields of interest. Examples are attending the Social Studies Department field trips and guest speakers as freshmen. These include, but are not limited to visiting the courthouse while in session, and meeting local and state representatives, as well as local law enforcement personnel. By their junior year they have an opportunity to participate in Student Government Day at the State House.

HONORS ACADEMY

To provide exceptional and well motivated students with an opportunity to participate in a sequence of sophisticated, advanced courses throughout their four years at Northbridge High School. In the Northbridge High School Honors Academy, students will pursue personal excellence in academics while maintaining and excelling in a rigorous course load. In order to align with Northbridge High School's Advanced Placement courses, there will be a focus on mathematics, science and English. The goal of the honors academy is to have each member complete a minimum of three career AP level courses throughout their four years.

B6114 SENIOR ACADEMY SEMINAR

2.5 Credits

****Prerequisite: Any Senior Member of an Academy***

Senior Academy Seminar is a comprehensive and mandatory course for all 12th grade students enrolled in an academy program. The Senior Academy Seminar is an opportunity for high school seniors to demonstrate their knowledge, and skills, achieved thus far in school. The topic or project they choose to explore will be completed independently either with the guidance of an outside mentor, or in a workplace internship either internal or external. The project will be presented to a public audience as part of a Senior Academy Fair. The Senior Project makes an intellectual and personal bridge between high school and the world beyond. All students will create a Digital Portfolio using Google Sites to document their hours, tasks completed, journal reflections, research, internship activities, etc.

CO-CURRICULAR CONNECTIONS

Northbridge High School is pleased to offer students the opportunity to participate in co-curricular programs. These extended classroom offerings provide students with experiences that enrich the curriculum, engage them in individual and team activities, reinforce the academics, expand their personal areas of interest, and provide competitive arenas for their particular area of interest. Co-curricular offerings will vary depending upon the level of students' interest from year to year and funding. We are always eager to increase our students' opportunities and welcome suggestions. In addition to the co-curricular and athletic programs, Northbridge High School offers students' participation in a variety of social & community service events throughout the school year.

ACADEMIC

National Honor Society

ENGLISH

Community Service Corps, Broadcast Academy, Drama Club

FINE & APPLIED ARTS

Business: DECA, RAMS Stand, National Business Honor Society

Music: Concert Band, Concert Choir, Jazz Ensemble, NHarmonics, Northbridge Marching Rams, Tri-M
(National Music Honor Society)

Art: National Arts Honor Society

Other: Yearbook, Computer Academy

HEALTH & WELLNESS

Intramural & Athletic Programs, Ski & Snowboarding Club, Weightlifting Club

SCIENCE & TECHNOLOGY

Science Club (NEAG), Engineering Academy, Health Sciences Academy

SOCIAL STUDIES

Justice Academy, History Club

SOCIAL SCIENCE, SERVICE & LEADERSHIP

Class Officer Teams, Principal's Advisory Council, Student Council, School Council

WORLD LANGUAGES

World Language Club

(ALL CLASSES ARE SUBJECT TO CHANGE IF STAFFING AND/OR ENROLLMENT ISSUES ARISE)

ENGLISH DEPARTMENT MISSION STATEMENT

The English Department gives students the tools to become effective readers, writers, speakers, and listeners. Students will read and respond critically and analytically to a variety of classical and modern works of literature, write proficiently in standard English, persistent and persuasively to an audience, and listen and respond constructively to the opinions of others. Students will engage in interconnected instructional activities, including technology and media, that will encourage them to become competent communicators.

SEQUENCE OF ENGLISH COURSES

All students must take four years of English while enrolled at Northbridge High School to fulfill the 4-year graduation requirement.

Grade 9	Grade 10	Grade 11	Grade 12
		AP English Language & Composition	AP English Literature
English 1-Honors	English 2 - Honors	English 3 - Honors	English 4 - Honors
English 1	English 2	English 3	English 4
*English Concepts & Applications 1	*English Concepts & Applications 2	*English Concepts & Applications 3	*English Concepts & Applications 4

Note: A course marked with an asterisk* will be required if it is part of the student's Individual Education Plan and/or is recommended by the classroom teacher.

STUDENTS MAY ELECT:

Grade 9	Grade 10	Grade 11	Grade 12
-Broadcast Production 1 & 2 -Modeling Systems -Public Speaking -Theatre Arts 1 & 2	Any English Elective offered in Grade 9 and the following: -Creative Writing	Any English Elective offered -Advanced Broadcast Production -Go, Mr. Poe -Lit. on the Edge -Shakespearean Drama -Sports & Lit in Film	Any English Elective offered

Students may elect a course at the honors level even if they have not yet taken an honors level course in his/her program of studies.

ENGLISH COURSE DESCRIPTIONS

E1012 ENGLISH 1 - HONORS

5.0 Credits

In this course you will read a variety of both literary and non-fiction texts, including informational non-fiction. Through reading, analyzing, researching, and writing, you will become knowledgeable about history, cultures, and literature. Fundamental grammar and research skills also will be emphasized. You are expected to complete a substantial amount of independent reading and analysis outside of the classroom.

E1011 ENGLISH 1

5.0 Credits

In this course you will read a variety of both literary and non-fiction texts, including informational non-fiction. Through reading, analyzing, researching, and writing, you will become knowledgeable about history, cultures, and literature. Fundamental grammar and research skills also will be emphasized.

E2012 ENGLISH 2 - HONORS

5.0 Credits

This course will help you gain an understanding of world literature through reading, writing, discussion, and presentation. This honors course will focus on a variety of genres including the short story, the novel, drama, poetry, and non-fiction. You will demonstrate mastery of several writing genres for a variety of purposes. You will continue to develop vocabulary and grammar skills and will be assigned independent reading as well.

E2011 ENGLISH 2

5.0 Credits

This course will help you gain an understanding of world literature through reading, writing, discussion, and presentation. This course will focus on a variety of genres including the short story, the novel, drama, poetry, and non-fiction. You will demonstrate mastery of several writing genres for a variety of purposes. You will continue to develop vocabulary and grammar skills and will be assigned independent reading as well.

E3015 ADVANCED PLACEMENT ENGLISH LANGUAGE AND COMPOSITION

5.0 Credits

**Required to take the AP Exam in May*

This college-level course prepares you for the Advanced Placement English Language and Composition exam. You will practice close reading and analysis of a variety of prose for rhetorical context and the use of language in structuring argument. You will also compose a variety of writing pieces. As a result, you will become skilled readers and writers prepared to write effectively at the college level.

E3012 ENGLISH 3 - HONORS

5.0 Credits

This course features American writings from colonial times to the present. Various authors, genres, and movements in American literature will be studied. Close reading, analysis, discussion, and the use of language in structuring argument are key skills emphasized in this course. You will also focus on grammar and vocabulary study in preparation for college entrance exams. A research paper, critical essays, assigned independent readings, and weekly vocabulary study are required.

E3011 ENGLISH 3

5.0 Credits

This course features American writings from colonial times to the present. Various authors, genres, and movements in American Literature will be studied. Close reading, analysis, discussion, and the use of language in structuring argument are key skills emphasized in this course. You will also focus on grammar and vocabulary study in preparation for college entrance exams. A research paper, assigned independent readings, and weekly vocabulary study are required.

E5015 ADVANCED PLACEMENT ENGLISH LITERATURE

5.0 Credits

****Required to take the AP Exam in May***

This college-level course prepares you for the Advanced Placement English Literature and Composition exam, which is given in May of the senior year. Through close reading and critical analysis of a wide representation of literature, you will deepen your understanding of the ways writers use language to create a piece of work that is both meaningful and of high literary merit.

E4012 ENGLISH 4 - HONORS

5.0 Credits

The primary aim of this course is to prepare you for college and career readiness. An emphasis is placed on advancing your critical thinking skills by providing diverse opportunities for reading, writing, speaking, and listening. Extensive independent and group readings will include non-fiction historical texts, poetry, short stories, drama, essays, and world literature selections. Analytical, critical, reflective, and research writing process skills, as well as student participation in classroom discussions, are essential components of this course.

E4011 ENGLISH 4

5.0 Credits

The primary aim of this course is to prepare you for college and career readiness. An emphasis is placed on advancing your critical thinking skills by providing diverse opportunities for reading, writing, speaking, and listening. Independent and group readings will include non-fiction historical texts, poetry, short stories, drama, essays, and world literature selections. Analytical, critical, reflective, and research writing process skills, as well as student participation in classroom discussions, are essential components of this course.

***R1011 ENGLISH CONCEPTS AND APPLICATIONS 1**

5.0 Credits

This course is designed to help you develop your reading comprehension, vocabulary, writing, and research skills through projects, cooperative learning, and individual and group instruction. You will use various strategies in a small group setting. This course is designed around individual needs.

***R2011 ENGLISH CONCEPTS & APPLICATIONS 2**

5.0 Credits

This course is designed to help you improve your reading and writing skills in a small group setting. You will be exposed to short stories, novels, poetry, drama, autobiographies, and biographies. Cooperative learning, hands-on activities, and individual and group instruction is designed around individual needs.

***R3011 ENGLISH CONCEPTS AND APPLICATIONS 3**

5.0 Credits

This course is designed to enhance reading and writing skills in a small group setting. You will be exposed to a variety of American literature from 1860 to the present. You will respond to literature through composition, discussion, and presentation. Grammatical points will be reviewed. This course is designed around individual needs.

***R4011 ENGLISH CONCEPTS AND APPLICATIONS 4**

5.0 Credits

This course is designed to enhance reading and writing skills in a small group setting. You will be

exposed to British literature. You will respond to literature through composition, discussion, and presentation. Grammatical points will be reviewed. This course is designed around individual needs.

ENGLISH ELECTIVES COURSE DESCRIPTIONS

E6041/E6042 BROADCAST PRODUCTION 1

2.5 Credits

In Broadcast Production 1, you will be introduced to the basics of writing for the media, shooting video and producing edited content for Channel 13. You will study the history of radio and television, basic care of the equipment, and what it means to be an active viewer of the media. After studying media history and literacy during the first half of the course, you will use Apple's iLife suite to produce your own media using such programs as iMovie, Garageband, and iDVD among others. Participation at after school events is expected.

E6051/6052 BROADCAST PRODUCTION 2

2.5 Credits

Broadcast Production 2 is an extension of Broadcast Production 1 and is primarily a hands-on course. Using pre- and post-production skills introduced in Broadcast Production 1, you will showcase your production skills by designing your own media projects that will be aired on Channel 13. Participation at after school events is required as we will be preparing media to showcase school events to the town of Northbridge via Northbridge Student Broadcast News (NSBN).

E6053 ADVANCED BROADCAST PRODUCTION

5.0 Credits

****Prerequisites: Broadcast 1 & 2***

Advanced Broadcast Production is an elective for juniors and seniors looking to further their studies of film and television in college. The class builds on the fundamental skills acquired in Broadcast 1 and 2 and provides a hands-on learning environment. Students have a great deal of freedom in deciding the focus of their projects and are empowered to become independent thinkers and creators. Students will participate in endeavors such as making school-related videos, producing short films, and entering video film contests. Participation in after-school events is required.

E6054 BROADCAST NEWS 101

2.5 Credits

****Not Running in 2017-2018***

In this elective, students will learn from the ground up what it takes to put on a live broadcast news production. Students will learn to write news scripts, report on current events, and shoot and edit a variety of news features. Key practical fundamentals and content include the history of broadcast journalism, the practice of sound journalistic ethics, and basics of video production.

E6055 ADVANCED BROADCAST NEWS

2.5 Credits

****Prerequisite: Broadcast News 101***

****Not Running in 2017-2018***

In this elective, students will apply the skills and knowledge gained in Broadcast News 101 to further their studies in television journalism. This class will delve into what it takes to produce a five-minute news and feature program to be viewed internally by the student body and aired on channel 13 for the larger Northbridge community. Students will actively perform all the jobs required to put on a newscast

from anchoring, to producing, to directing. The class is very hands-on with students engaging in editorial decisions regarding the focus of the news that will be broadcast.

E6082 GO, MR. POE

2.5 Credits

****Grades 11 and 12 or per teacher recommendation***

In this course you will be introduced to Edgar Allan Poe and his partners in Gothic literature. Through reading, research, and class discussion, you will learn about Gothic authors' lives and works, their writing styles, and their impacts on the world of literature. You will focus on the themes that express society's continuing interest in the nature of good and evil and in the supernatural, as these motifs appear in historical as well as contemporary literary works.

E6711/E6712 PUBLIC SPEAKING

2.5 Credits

This course will give you the tools to speak effectively in a public forum. You will learn the basics of good communication through learned verbal and nonverbal skills. This course talks you through the speech process, covering areas of topic selection, audience analysis, speech writing, and delivery.

E6311/E6312 CREATIVE WRITING

2.5 Credits

If you are interested in creative writing, this course is for you, even if you have never written creatively before. This course will provide you with the opportunity to read and analyze "good" and inspiring literature in various genres and compose your own stories, plays, poems, and memoirs. You must be willing to write and revise frequently, to share your work with the rest of the class and to have your work peer critiqued. The processes of analysis and revision will be emphasized in this course.

E6411/E6412 THEATER ARTS 1

2.5 Credits

In this activity-based course, you will learn fundamental acting skills through improvisations, dramatic exercises, pantomimes, monologues, and dance. As the semester progresses, you will explore character development and motivation in small group scenarios, as well as perform in short skits. You will also read several one-act plays and book-length plays in order to study character development, staging and presentation, and storyline.

E6511/E6512 THEATER ARTS 2

2.5 Credits

****Prerequisite: Theater Arts 1***

This course is for the serious drama student. As a continuation of Theater Arts 1, students will improve upon their theater and stage skills by reading and viewing different types of dramatic literature and performances, as well as writing several short scenes. As a final product, each student will become part of a group which will write, memorize, and perform in their own one-act play.

E6171/E6172 SHAKESPEAREAN DRAMA

2.5 Credits

Love watching *The Lion King*, *10 Things I Hate About You*, and *West Side Story*? Believe it or not, these are all based on Shakespeare's plays. In this course, you will explore the richness and relevance of Shakespeare in our society. You will study this influential playwright through excerpts from the original plays and the various adaptations that have followed.

E6191/E6192 SPORTS IN LITERATURE & FILM

2.5 Credits

Sports in Literature and Film is a course that combines literary criticism and film review with sports as its focus. This course examines the importance of sports in our society, what sports reveal about our culture, and how writers and filmmakers handle sports themes in works of fiction and non-fiction. You will examine sports focusing on identifying subject, symbol, motif, and metaphor. You will read various types of sports texts including journalism, fiction, poetry, drama and autobiography. These works may include *Friday Night Lights*, *Fences*, *Hoops*, and *Sports Illustrated*. You need not be an expert in either sports or literature in order to understand, contribute to, excel in or learn from this class. You do, however, need to be willing to think critically and participate by both sharing and listening to ideas.

E6811/E6812 LITERATURE ON THE EDGE

2.5 Credits

**You will need to purchase materials for this course*

** Limited to grades 11 and 12 only due to mature content.*

Don't Read These Books! Every year in the United States there are dozens of books that are challenged or banned, and this course explores why these books are so controversial and scrutinized. You will study why certain books are challenged, explore the context and purpose for which a book is written, and will analyze frequently banned books for their aesthetic value, disputed content, and literary merit. Critical essays, independent reading, discussions, and projects are required for this course.

E8012 MODELING SYSTEMS DYNAMICS

2.5/5.0 Credits

**The use of STELLA Software qualifies this course to count towards computer credits*

American science fiction writer Ray Bradbury warned of the dangers of complacency in our world when he wrote, "You don't have to burn books to destroy a culture. Just get people to stop reading them." This course will examine informational texts that compel us to see society in a new light as a system of variables that are subject to change. Each week you will be given a new problem to solve, applying the problem solving skills learned from the texts. Through Systems thinking, communicating, and learning, you will unlock the skills required to move from theory to application and address the greatest issues facing humanity. This course demands a commitment to active independent and collaborative work on intellectual challenges, and flexibility is a necessity. In past years, Systems Dynamics students have created a community garden, developed a \$25,000 skate park in town, produced "What Kind of World Do You Want?" videos that raised \$9,000 for Autism Speaks, and established a memorial located at Lasell Field for the victims of the Holocaust. Additionally, students will have the opportunity to participate in a summer learning extension focused on expanding the existing community garden with a hydroponics component. Mr. Bradbury understood that to reach your potential sometimes you must, "jump, and you will find out how to unfold your wings as you fall."

FINE & APPLIED ARTS MISSION STATEMENT

The Fine and Applied Arts Department focuses on the whole student by exploring a wide range of interests. Through a combination of introductory and advanced level courses we expose students to new concepts and strengthen existing skills and abilities. Our courses empower an individual's creativity and applied knowledge.

SEQUENCE OF FINE AND APPLIED ARTS COURSES

All students must take 5 credits of computer courses and 4 years (10 credits) of Health & Wellness courses while enrolled at Northbridge High School to fulfill the 4-year graduation requirement.

Student Athletes have the option to complete a waiver to replace PE with their chosen sports or Marching Band.

STUDENTS MAY ELECT:

(Elective offerings may vary due to staffing or budget constraints)

Grade 9	Grade 10	Grade 11	Grade 12
ART: -Architectural Design -Art 1 -Art 2 -Ceramics 1 -Ceramics 2 -Sculpture	Any Elective offered in Grade 9 and the following: -Ceramics 3 -Ceramics 4	Any Elective offered in Grade 9 & 10 and the following: -Advanced Drawing & Mixed Media	Any Elective offered in Grade 9, 10 & 11 and the following: -AP Studio Art -Studio Art
MUSIC: -Concert Band -Concert Choir -Music Appreciation -Percussion Fundamentals	Any Elective offered in grade 9 and the following: -Music Theory 1 -Music Theory 2	Any Elective Listed	Any Elective Listed
BUSINESS: -Financial Literacy Money Matters -Intro to Marketing	Any Elective offered in Grade 9 and the following: -Accounting 1 & 2 -Advertising & Promotion -Entrepreneurship -Indiv. Business Concentration -Sports & Entertainment Mktg.	Any Elective Listed	Any Elective Listed
COMPUTER: -Computer Applications -Comp. Programming 1 & 2 -Digital Imaging -Exploring Computer Science 1 & 2 -Graphic Design 1 & 2 -Intro to Animation -Intro to Photography -Photography 2 -Web Page Design 1 & 2	Any Elective offered in Grade 9	Any Elective offered in Grade 9 & 10 and the follow: -AP Computer Science	Any Elective Listed
PE & HEALTH: -Health & Wellness 1	-Health & Wellness 2	-Health & Wellness 3	-Health & Wellness 4

ART & MUSIC COURSE DESCRIPTIONS

T7011/T7012 CONCERT BAND

5.0 Credits

**Prerequisite: Must read music and play a traditional band instrument. No electric guitars*

**Students taking this course for honors credit will be expected to meet more in depth assessment requirements and will be given additional homework assignments*

This class will offer you the opportunity to develop your performance and critical/reflective thinking skills through instrumental music. Throughout the year you will be exposed to many different genres of music as well as a wide range of composers and arrangers. Music will range from serious literature to current “pop” music. Concert Band will offer you a chance to refine your own technique through warm-ups, exercises, sight-reading, and music that is consistent with the standards of the Massachusetts Arts Curriculum Frameworks. Honors students are encouraged to take outside private lessons and must learn the Central Massachusetts audition piece.

Performances: The Concert Band participates at seasonal concerts, exchange concerts, graduation, and competitions are mandatory if you wish to sign up for this class.

CONCERT CHOIR

T7031/T7032-- Offered 1st Semester

2.5 Credits

T7041/T7042-- Offered 2nd Semester

2.5 Credits

T7051/T7052-- Offered Full Year

5.0 Credits

**Students taking this course for honors credit will be expected to meet more in depth assessment requirements and will be given additional homework assignments*

This class will offer you the opportunity to develop your performance and critical/reflective thinking skills through choral music. Throughout the semester/year you will be exposed to many different genres of music as well as a wide range of composers and arrangers. Music will range from serious literature to current “pop” music. Concert Choir will offer you a chance to refine your own technique through warm-ups, exercises, sight-reading, and music that is consistent with the standards of the Massachusetts Arts Curriculum Frameworks. No prior singing experience necessary.

Performances: The Concert Choir participates at seasonal concerts, exchange concerts, graduation, and competitions are mandatory if you wish to sign up for this class.

T6071 MUSIC APPRECIATION

2.5 Credits

You will participate in a study of all styles of music. Classical, jazz, folk music, musicals, operas, and rock music will be explored. Videos and CD’s will be used to enhance the study of various styles. The intent of this course is to expose you to as many kinds of music as possible. We will continue to try to answer the question “Why do we like what we like?”

T7082 MUSIC THEORY 1

2.5 Credits

**This course is suggested for those students considering music as a career, or for those who would like to learn the in depth workings of music*

You will have the opportunity to learn the fundamentals of music, which includes the study of rhythm, staff notes, time signatures, scale studies, and intervals. Chords and the writing of melodies are explored

utilizing computer technology.

T7022 MUSIC THEORY 2

2.5 Credits

**Prerequisite: B- or better in Music Theory 1 or special permission from instructor*

**This course is designed for students who wish to continue on with music as a career or had a thorough understanding of the material in Music Theory 1*

This course will be a continuation of the work completed in Music Theory 1. New topics will include 4 part analysis and writing, modulation, secondary functions, form analysis, composing, and arranging. Students should expect more individual and group projects than in Music Theory 1. Students will have the opportunity to continue work on music software.

T7090 PERCUSSION FUNDAMENTALS

2.5 Credits

This class will teach students the foundations of music, including but not limited to, reading and writing music, recognizing musical symbols, and performance etiquette. While learning the foundations of music, students will learn to play and care for instruments in the percussion family. This class will not just be playing the drum set, but exploring ALL major percussion instruments. No prerequisite is needed for this course.

A6154 ARCHITECTURAL DESIGN

5.0 Credits

This will be a full year course in which students will explore architecture through art and engineering. Students will gain a deeper understanding of drafting both on paper and in CAD, will fabricate, design, and build structures based upon floor plans of their own design. Students will gain a comprehensive understanding of space and form, develop the ability to translate 2D drawings and designs into 3D models, and understand and implement building codes and zoning laws- all of this, while infusing personal style and the demands of the public. Students will leave this class with a portfolio designed to meet the requirements for acceptance into an architectural program at the college level.

A6031/A6032 ART 1

2.5 Credits

**Students taking this course for honors credit will be expected to complete more complex assignments that cover multiple techniques and learning objectives as well as more in depth assessment requirements and will be given additional homework assignments*

This is an introductory course and a building block for the more advanced 2D design art classes. You will learn the basics of composition, pencil technique, value studies, 1 & 2 point perspective, color theory, design concepts, intro to the figure, and basic rendering design skills. The aim of the course is to accustom students to abstract problem solving and innovative thinking and planning.

A6041/A6042 ART 2

2.5 Credits

**Prerequisite: Art 1*

**Students taking this course for honors credit will be expected to meet more in depth assessment requirements and will be given additional homework assignments*

In this class, you will build upon the concepts and techniques learned in Art 1 and develop a more sophisticated portfolio. You will experiment with more advanced concepts materials and techniques,

such as acrylic painting and printmaking. This is an essential course for technical skill building and preparing for a career in the arts.

A6061 CERAMICS 1

2.5 Credits

Ceramics 1 is an introductory course that focuses on hand building and basic wheel throwing clay methods to create both aesthetic sculptures and functional pieces. Students will explore the vast topic of ceramics through different decorative techniques, additive and subtractive methods, materials, and tools that help develop critical and abstract thinking skills. This course will include a basic survey of the history of ceramic art and its development across various cultures.

A6071/A6072 CERAMICS 2

2.5 Credits

**Prerequisite: Ceramics 1*

**Students taking this course for honors credit will be expected to meet more in depth assessment requirements and will be given additional homework assignments*

Ceramics 2 is designed to build upon the skills and techniques learned in Ceramics 1. Students will reinforce their hand building skills and spend more time practicing advanced techniques on the pottery wheel. This course focuses on students developing artistic ideas based on a specific theme or motif.

A6081 CERAMICS 3

2.5 Credits

**Prerequisite: Ceramics 1 and 2*

Ceramics 3 is an advanced ceramics course that focuses on students developing their own artistic voice and style. Students will continue to expand upon the techniques learned in ceramics 1 and 2 as well as learn to mix clay and glaze, load the kiln, and further understand the materials that we are working with. Students will be expected to work independently and analyze and discuss their work and the work of their classmates.

A6084 CERAMICS 4

2.5 Credits

**Prerequisite: Ceramics 1 and 2*

**Second Semester only, meets with Ceramics 3*

Ceramics 4 is an advanced ceramics course that builds upon techniques learned in ceramics 3. Students will continue to develop their artistic style with a focus on critique and analyzing each other's work. Students will also work on creating a portfolio website that showcases their best work and newly developed style.

A6001 SCULPTURE -DEVELOPING YOUR CREATIVITY THROUGH SCULPTURE

2.5 Credits

Sculpture 1 is an introductory course that focuses on basic classifications of sculpture. Students will explore a wide variety of materials including wire, air-dry clay, found objects, cardboard, discarded library books and mixed media. Creative problem solving, pre-conceptual planning, artistic design, and careful craftsmanship are important aspects of 3-dimensional design that students will build throughout the course. This course will include a basic survey of the history of 3-dimensional art and its development across various cultures.

A6133 ADVANCED DRAWING & MIXED MEDIA

5.0 Credits

****Prerequisite: Art 1 and Art 2***

This course is for juniors and seniors who are seriously considering taking art at the college level. This course is designed to refine drawing abilities, while experimenting with media and technique. Throughout the duration of the course students will transition from teacher directed assignments to student initiated ones allowing students the freedom to make their own artistic decisions based on their knowledge, experience, and personal style. This course is designed to aid students in making a portfolio for college acceptance and prepare them for AP Studio Art.

A6152 STUDIO ART

5.0 Credits

****Prerequisite: Art 1, Art 2, and Painting and Drawing or approval of instructor***

This course is designed to create a portfolio for art school and is only for those planning on majoring in art in college. This is an advanced art course that will bring together both 2D and 3D mediums. This course will include both teacher and student directed assignments, and will include in-class and out-of-class assignments. This course is designed to prep you for college art courses and to build a portfolio for college entrance into the art program.

A6153 AP STUDIO ART

5.0 Credits

****Prerequisite: Art 1, Art 2, and Painting and Drawing***

This course is designed for serious art students who will be pursuing art at the college level. This course will guide students in the development of a cohesive 24 piece portfolio to be submitted as the AP Drawing Portfolio exam and for college acceptance. It will develop and refine skills to demonstrate mastery of a variety of media and subject matter as well as allow students to discover personal strengths in the studio through in depth studies in an area of personal interest.

BUSINESS COURSE DESCRIPTIONS

B6061/B6062 ACCOUNTING 1

2.5 Credits

****Prerequisite: Available to Sophomores, Juniors, and Seniors only***

Money talks and that is why Accounting is called the language of business! It tells a story about the business in financial terms and provides information to both internal and external decision makers about the financial health of a business. In this newly designed course, students will gain an understanding of the importance of maintaining accurate financial records, how these records are used to prepare financial statements, and how financial statements are analyzed and used by the company and their investors. Students will complete an entire accounting cycle for a business as well as examine ethics, internal control procedures, auditing, taxes, payroll, and budgeting. Both manual and new automated accounting will be used in this course. This is a DECA eligible course.

B6063/B6064 ACCOUNTING 2

2.5 Credits

****Prerequisite: Accounting I***

Students will expand upon the foundation skills established in Accounting I. Focus will be on departmentalized and corporate accounting systems as well as financial analysis, accounting for plant assets, and accrued accounting. Students will reinforce their learning by completing computerized

projects and simulations that provide a realistic approach to problem solving. With such increased competency, the student will be better prepared for entry into any post-secondary business program. This is a DECA eligible course.

B6043 FINANCIAL LITERACY MONEY MATTERS

2.5 Credits

Who wants to be a millionaire? This semester course is designed to alert, inform, and educate students in concepts of personal finance and money management. Students will begin to develop the skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy. This course will start students on a path toward being in control of their financial futures. The course will teach students to search and assess college and career opportunities, identify and prioritize their personal money management goals, develop personal spending and savings plans, comprehend the impact of time on the value of money, understand the cost of using credit, and protect assets.

B6091/B6092 INTRODUCTION TO MARKETING

2.5 Credits

This course is designed to introduce the practical and realistic concepts of marketing. This course will provide you with an overview of the marketing process and the evolution of the process. You will learn to recognize how the marketing concept has been widely accepted in business. You will learn how marketing decisions must be made within an environmental framework and to determine how competitive strategies influence the marketplace. The course utilizes the school store as a learning opportunity, and requires your involvement. You will further your development in areas of leadership, social intelligence, vocational understanding, and civic consciousness through competition within the DECA program. Through the integration of these activities with DECA and your marketing class your skills are cultivated to assist you in becoming future leaders in the areas of marketing and management. This is a DECA eligible course.

B6031/B6032 ADVERTISING AND PROMO/RETAIL

2.5 Credits

**Prerequisite: Available to Sophomores, Juniors, and Seniors only*

This course consists of an analysis of market segmentation and understanding consumer behavior. An introduction to product strategy and development, retail vs. wholesale, promotional strategies, advertising, pricing and identifying consumer needs. Students learn the basics of retail sales principles. They learn how store classifications, layouts and designs guide the ways stores attempt to sell products. Students study trends in retail and learn how to plan the way a store runs in order to make it a success. Pricing strategies are analyzed so retailers know how to sell products and grow profits. The course utilizes the school store as a learning opportunity/lab, and requires your involvement. You will further your development in areas of leadership, social intelligence, vocational understanding and civic consciousness through competition within the DECA program. Through the integration of these activities with DECA and your marketing class, your skills are cultivated to assist you in becoming future leaders in the areas of marketing and management. To receive Honors credit, you must exhibit knowledge and understanding of the material presented. This is a DECA eligible course.

B6034 ENTREPRENEURSHIP

2.5 Credits

**Prerequisite: Available to Sophomores, Juniors, and Seniors only*

**Must have previously taken a marketing course*

Do you know someone who owns his or her own business? Do you want to be your own boss? Do you have the goal of owning a highly successful company? These are only a few of the reasons why thousands of people in the United States become entrepreneurs. This course will take you on a step by step journey through the entire process of owning your own business. Students will first learn basic economics principles related to business ownership. They will identify and assess common traits and skills found in entrepreneurs, explore business opportunities, and compare the risks and rewards of owning a business. The primary focus of the course is to help students understand the process of analyzing a business opportunity, determining feasibility of an idea utilizing research, developing a plan to organize and promote the business and its products/services, and, finally, to understand the capital required, the return on investment desired, and the potential for profit. Students will also learn how to put together a business plan and will have created a complete plan by the end of the course. This is a DECA eligible course.

B6113 INDIVIDUALIZED BUSINESS CONCENTRATION

5.0 Credits

****Prerequisite: Any marketing course or previous DECA competition experience***

Individual course modules are customized for student interest in various business categories helping meet the specific needs of every student. The course provides information on diverse industries ... from automotive to sports & entertainment marketing. Students have the opportunity to match their likes, interests and skills with the business module of their choice. Step by step guidelines assist students who plan to compete with DECA individual series, team decision making events or written projects. Perfect for individuals or project-based classroom assignments. The course will help you clearly understand the DECA events, how they are structured, how they are judged, and how you can maximize your success. This course includes industry-specific study resources, guidance on building confidence and setting goals, strategies for maximizing points on role plays, and study resources for topics that will be on your test and role play case study. This is a DECA eligible course.

B6211/B6212 SPORTS AND ENTERTAINMENT MARKETING

2.5 Credits

****Prerequisite: Available to Sophomores, Juniors, and Seniors only***

This course will help students develop an understanding of the marketing concepts and theories that apply to sports and entertainment events. The areas this course will cover include basic marketing, target marketing and segmentation, sponsorship, event marketing, promotions, sponsorship proposals, and implementation of sports marketing plans. The course utilizes the school store as a learning opportunity/lab, and requires your involvement. You will further your development in areas of leadership, social intelligence, vocational understanding and civic consciousness through competition within the DECA program. This is a DECA eligible course.

COMPUTER COURSE DESCRIPTIONS

Two semesters of computer technology are required to fulfill graduation requirement

C6051 COMPUTER APPLICATIONS

2.5 Credits

This course will cover topics in computer literacy and is designed for students who want to improve upon basic computer skills. It is recommended for freshmen, sophomores and students new to Northbridge Public Schools. The emphasis of the course will be on usage of the office software suite. Topics covered may include word processing, desktop publishing, or the creation of spreadsheets or presentations. Students will demonstrate appropriate use of the computer and its applications through project-based

assignments.

C6111 COMPUTER GRAPHIC DESIGN 1

2.5 Credits

This course will cover a variety of topics related to creating computer graphics. Students will use computers and software to create vector art – they will draw with the computer! Students will learn the principles of design to and will demonstrate knowledge of the principles through project-based assignments. Learning both software and design principles will enable the student to create effective graphic or commercial art projects. Students may create projects such as advertising posters or illustrated song lyrics.

C6110 COMPUTER GRAPHIC DESIGN 2

2.5 Credits

**Prerequisite: Computer Graphic Design 1*

This course allows students to continue to study a variety of topics related to creating computer graphics. Students will use advanced software methods to continue their study of vector art. Students will build upon their knowledge of design principles. Students will create more elaborate and in-depth projects to demonstrate their knowledge of the principles and elements of design. Learning advanced software techniques and additional design elements will enable the student to create meaningful solutions to design problems. Projects may include cereal boxes, movie posters or book covers.

C6072 COMPUTER PROGRAMMING 1

2.5 Credits

This course will cover programming methodology with an emphasis on problem solving and algorithm rather than language syntax. In this course you will use higher-order thinking skills because the focus is on programming concepts, design and abstraction rather than on memorization or syntax. To take this course, you should have a mathematics background equivalent to a second course in algebra, a solid background in English, and developed writing skills. This course will be offered using the JAVA language.

C6082 COMPUTER PROGRAMMING 2

2.5 Credits

**Prerequisite: Computer Programming 1*

This course is the next in the programming sequence. It is intended for students who have successfully completed Programming 1. You will examine in greater detail topics and concepts that were introduced in Computer Programming 1 and continue with an introduction to the concepts covered in AP Programming as outlined by the College Board.

C6171 DIGITAL IMAGING

2.5 Credits

This course will cover the essentials of computer based image manipulation. Students will explore both the technical and artistic aspects of altering images. Topics may include blending images, retouching, painting and modifying color. This is a hands-on class where we spend most of our time creating and experimenting.

C6085 EXPLORING COMPUTER SCIENCE 1 CP- COMPUTING & WEB BASICS

2.5 Credits

Problem-solving, Web Design and Computer Programming

In *Unit 1: Concepts of Computers and Computing*, students will explore how computers actually work, various web applications, and internet search techniques. We will discuss issues of privacy and security. In *Unit 2: Problem-solving*, students will create solutions to project problems by exploring the use of logic they already know along with algorithms they create for themselves through abstract thinking. In *Unit 3: Web Design*, students will take on the role of a developer, expanding their knowledge of algorithms, abstraction, and web page design. In *Unit 4: Introduction to Programming*, students will use the program *Scratch* to create interactive projects and games using the principles of problem-solving developed in earlier units.

C6086 EXPLORING COMPUTER SCIENCE 2CP - DATA & ROBOTS

2.5 Credits

****Prerequisite: Exploring Computer Science 1***

Computing and Data Analysis, and Robotics

Unit 5: Computing and Data Analysis Where there are humans, there are data; and its collection and analysis is vital to decisions concerning business, science, and daily living. In this unit, we will explore the importance of data analysis, such as the data provided on websites like Twitter, and data gathered for issues such as climate change, animal habitats, and human behavior. In *Unit 6: Robotics*, students will use the LEGO Mindstorms NXT kit to explore robotics in solving problems. For the projects in this unit, students will consider how to use both hardware and software to automate processes otherwise done by human beings.

C6181 INTRODUCTION TO ANIMATION

2.5 Credits

****Prerequisites: It is strongly recommended that students take Graphic Design, Computer Graphics or Digital Imaging prior to starting this class.***

Love cartoons? Dreaming of a job at Pixar studios? Start here and learn the basics! In this course students will learn how to tell a story through animation. Participants will complete a variety of hands on projects using different forms of animation. Some techniques may include: Flipbooks, 2D computer animation, or Stop Motion/Claymation animation. Students will be asked to learn storyboarding and apply basic computer drawing techniques to artistically express themselves and effectively visualize the written word.

C6151 INTRODUCTION TO PHOTOGRAPHY

2.5 Credits

This hands on class includes lots of shooting, processing and interactive demonstrations. Students will learn the manual exposure controls and the visual effect that each has on the image. Topics include controlling focus, motion, depth of field and image quality. In addition to shooting, a major component of this course is using a computer to edit, organize and share images. Students will learn various processing techniques that will help images look their best.

Required equipment: A flash drive 16GB or larger.

Recommended equipment: A DSLR camera with memory card and bag. See <https://goo.gl/qgIvCo> for recommendations

C6152 PHOTOGRAPHY 2

2.5 Credits

****Prerequisite: B or better in Photography I***

****Required equipment: A flash drive 16GB or larger.***

****Recommended equipment: A DSLR camera with memory card and bag. See <https://goo.gl/qgIvCo> for***

recommendations

The focus of this course is to develop the student's creative vision. A personal photographic style will begin to emerge and confidence with the camera will grow. This will be achieved through a study of light and how it affects the image. Topics will include photographing people, products and landscapes. Advanced processing tools and techniques will be discussed that will make great images even better.

C6131/C6132 WEB PAGE DESIGN 1

2.5 Credits

The emphasis of the course will be an understanding of standards compliant HTML, CSS, and their use in the creation of web pages. You will begin with the basics of HTML (Hypertext Mark-Up Language) to apply and enhance your knowledge of web page design, and then continue onto CSS (Cascading Style Sheets). You will learn how to effectively design and develop web pages.

C6142 WEB PAGE DESIGN 2

2.5 Credits

****Prerequisite: Web Page Design 1 or recommendation by instructor***

The emphasis of the course will be an understanding of advanced elements in HTML, CSS, Javascript and their use in the creation of web pages. You will begin advanced topics of HTML (Hypertext Mark-Up Language) to further enhance your knowledge of web page design and then continue onto advanced topics in CSS (Cascading style Sheets). You will learn how to effectively design and develop web pages for the most common web browsers.

C5015 ADVANCED PLACEMENT COMPUTER SCIENCE

5.0 Credits

****Prerequisite: Computer Programming 1 or permission from instructor***

The course will follow the guidelines suggested by the College Board and will prepare the student for the AP exam at the end of the year. This course will be using the JAVA language. A summer assignment will be assigned and students will be required to take the AP exam in May.

HEALTH AND WELLNESS COURSE DESCRIPTIONS

Four years of integrated physical education/health are required to fulfill graduation requirement.

As a graduation requirement students must pass ten credits of Health and Wellness. Health and Wellness is an integral part of the total education of the student, contributing to the physical, mental/emotional and social development of the individual. The Health component of the class will not only better prepare freshman for their biology MCAS but will help all students recognize the effects of personal Growth and Development on their Health and Wellness. The physical activity component is designed to encourage and develop a lifetime of physical activity, total fitness, good sportsmanship, respect for all and leadership skills.

P4011 HEALTH & WELLNESS 1

2.5 Credits

****This class can be taken at the honors level upon request with teacher and Guidance Counselor approval***

****Please note the physical activities are not the same in the Fall & Spring Semesters***

This class offers a comprehensive approach to total Health and Fitness. Content areas may include, but not limited to: Skeletal, Muscular, Cardiovascular, Respiratory, Digestive and/or Reproductive System, Mental and Emotional Health, Injury Prevention and Safety, Personal Health and Prevention and Control

of Disease and Substance Use and Abuse. Students will learn to be a critical thinker and problem solver, responsible, respectful and productive citizen as well as an effective communicator. The increased knowledge in a student's growth & development combined with the benefits of physical activity in lifetime sports will help to reduce stress and anxiety in life.

P5011 HEALTH & WELLNESS 2

2.5 Credits

****Prerequisite: Health & Wellness 1***

****This class can be taken at the honors level upon request with teacher and Guidance Counselor approval***

****Please note the physical activities are not the same in the Fall & Spring Semesters***

In this class, you will learn the affects of the decision-making and consequences in relation to one's social/emotional health considering safety and prevention in respect to substances, diseases, reproduction/sexuality. Students will experience personal fitness, nutrition and lifetime sports. The increased physical activity in personal fitness, aerobic activities and lifetime sports will help you assess your personal fitness goals.

P3011 HEALTH & WELLNESS 3

2.5 Credits

****Prerequisite: Health & Wellness 2***

****Please note the physical activities are not the same in the Fall & Spring Semesters***

In this class, in addition to reinforcing all the Motor Skills learned in Health & Wellness 1 & 2, students will learn about Injury Prevention, Substance Use and Abuse effects on individuals, families and society, Prevention and Control of Disease, plus Human Growth & Development. There will also be an emphasis on skills, strategies and rules to lifetime sports learned in Health & Wellness 1 & 2. If time and equipment allow, we may include First Aid, CPR, AED Training with the option for Certification (student's responsible for paying the Red Cross Certification fees).

P3012 HEALTH & WELLNESS 4

2.5 Credits

****Prerequisite: Health & Wellness 3***

****Please note the physical activities are not the same in the Fall & Spring Semesters***

This class builds upon the foundations set in Health and Wellness 1,2 and 3. Students will gain a better understanding of the five components of fitness: Muscular Strength, Muscular Endurance, Cardiorespiratory Endurance, Flexibility and Body Composition. These will be achieved through individual and team sports and use of the weight room, cardiovascular and other fitness facilities in the school. We may dabble in taping activities to create ESPN style highlights. Health and Wellness' role in society will also be emphasized; students will learn skills necessary to become health-literate consumers, advocates for their own well-being and that of the community.

MATHEMATICS MISSION STATEMENT

The Mathematics Department will provide students with the tools to learn, write, and speak about mathematics. Students will use critical thinking, problem solving and reasoning to explain, investigate, and apply the major strands of the curriculum: Number Sense (NS), Patterns, Relations and Algebra (PRA), Geometry (G), Measurement (M), and Data Analysis (DA). Students will use technology, especially graphing calculators and computers, to help them apply the above strands to practical problem situations. This will help students understand the connection between mathematics, science, and other disciplines. This will also provide students with the ability to apply mathematical solutions to their everyday lives.

SEQUENCE OF MATHEMATICS COURSES

All students must take four years of mathematics while enrolled at Northbridge High School to fulfill the 4-year graduation requirement.

Grade 9	Grade 10	Grade 11	Grade 12
Algebra 2-Honors	Geometry-Honors Or AP Statistics	Trigonometry-Honors Pre-Calculus 1-Honors	AP Calculus AB Or AP Statistics
Algebra 1-Honors	Geometry-Honors	Algebra 2-Honors	AP Statistics Or Trigonometry H & Calculus H Or Statistics H & Probability H
Algebra 1	Geometry	Algebra 2	Advanced Topics Math 1 & 2 Or Trigonometry 1 & Calculus
			Consumer Finance
Mathematics Concepts & Applications 1	Mathematics Concepts & Applications 2	Mathematics Concepts & Applications 3	Mathematics Concepts & Applications 4

Courses will be offered at the Honors (H) College Preparatory (CP) levels as shown above. In addition to the Honors and College Preparatory classes the Advanced Placement (AP) courses are indicated. Placement is determined by course prerequisites, standardized test scores (MCAS, pre/post testing, etc.), course grades and/or teacher recommendations. Students will have the opportunity to move vertically (course or level) depending upon performance and teacher recommendation. Credits will be awarded for courses taken at the **high school only**. All students are required to successfully complete 4 years of mathematics while enrolled in high school as part of fulfilling Northbridge High School's graduation requirements. The mathematics courses for the current school year are listed above and described as follows.

- All students must take 4 years of Mathematics - the equivalent of one full-year mathematics course must be taken each year.
- Algebra 1 and Algebra 2 courses at the Middle School will appear on high school transcripts, however,

high school credit will not be awarded.

-Students with an 85 or better in Algebra 1 in the 8th grade will be scheduled for Algebra 2 honors in grade 9.

-Students who receive below an 85 in Algebra 1 in the 8th grade will be scheduled for Algebra 1 Honors in grade 9.

-Students with an 85 or better in Algebra 2 in the 8th grade will be scheduled for Geometry honors in grade 9.

-Students who receive below an 85 in Algebra 2 in the 8th grade will be scheduled for Algebra 2 Honors in grade 9.

MATHEMATICS COURSE DESCRIPTIONS

M1012 ALGEBRA 1 - HONORS

5.0 Credits

This course is structured for the more advanced mathematics student. Course topics include order of operations, linear equations, linear inequalities, systems of equations, proportions and percents, and solving quadratics using multiple methods. Each of these topics includes a great emphasis on word problems and applications in order to prepare you for continuation in the Honors mathematics program. You will reinforce the concepts learned using available technology including; graphing calculators and computer programs.

M1011 ALGEBRA 1

5.0 Credits

This course will address the mathematical concepts in the Algebra 1 Massachusetts Mathematics Curriculum Frameworks. The concepts covered and skills learned will allow students to become successful problem solvers. Particular attention will be paid to the following topics: solving equations, slope and linear equations, systems of equations and factoring. You will learn to represent each of these topics in multiple ways and will use technology, including graphing calculators, to reinforce the concepts learned.

M2012 GEOMETRY - HONORS

5.0 Credits

****Prerequisite: Algebra 1 Honors***

This course is structured for advanced mathematical students. Sample topics that will be covered include relationships between parallel and perpendicular lines, properties of triangles and quadrilaterals, similarity, logic, circle problems, and an introduction to trigonometry. Students will also use reasoning skills to create and complete mathematical proofs. Constructions will be given to further explore topics that are taught in class.

M211 GEOMETRY

5.0 Credits

****Prerequisite: Algebra 1***

This course will integrate and maintain algebraic skills while developing geometric concepts. Key concepts covered include parallel lines, angle relationships, properties of polygons and fundamental logic.

You will conduct hands-on and computer-assisted activities and geometric constructions, which give the opportunity to discover geometric relationships using inductive reasoning. Deductive reasoning will be developed through the study of informal geometric proofs. Real-life applications are integrated throughout the course.

M3012 ALGEBRA 2 - HONORS

5.0 Credits

****Prerequisite: Algebra 1 Honors***

This course is intended for students who possess a thorough knowledge of the topics covered in Algebra 1 Honors. In this course students will develop a greater comprehension of Algebra through covering the essential topics of: linear functions, linear equations, polynomial and rational expressions, radical and irrational numbers, quadratic relations and systems, exponentials and logarithms, basic trigonometric functions, and probability with an added emphasis on word problems. This course will provide students with a solid foundation that will be used in trigonometry and Calculus.

M3011 ALGEBRA 2

5.0 Credits

****Prerequisite: Algebra 1***

This course will continue to address many of the topics introduced in Algebra 1. Some of the key concepts that will be covered include solving linear equations and inequalities, solving systems of linear equations, matrices, quadratic functions, factoring, and radicals. You will use graphing calculators to assist you in learning these concepts.

M3042 PRE-CALCULUS 1 - HONORS

2.5 Credits

****Prerequisite: Algebra 2 Honors & Trigonometry Honors***

The main goal of Pre-Calculus is for you to gain a deep understanding of the fundamental concepts and relationships of functions. You will expand your knowledge of quadratic, exponential, and logarithmic functions to include power, polynomial, rational, piecewise, and trigonometric functions. You will investigate and explore mathematical ideas, develop multiple strategies for analyzing complex situations, and use graphing calculators and mathematical software to build understanding, make connections between representations, and provide support in solving problems. You will analyze representations of functions, sequences, and series. You will apply mathematical skills and make meaningful connections to life's experiences. Because of the importance of technology in this course, access to a graphing calculator is required.

M3052 TRIGONOMETRY - HONORS

2.5 Credits

****Prerequisite: Algebra 2 Honors and Geometry Honors***

Trigonometry is offered the first semester in order to prepare students for the Pre-Calculus and Calculus courses. Trigonometry examines and develops, in depth, the six circular functions, which are called the Trig functions. After developing the circular functions, you will examine the use of them with identities, graphs, equations, and applications. Right triangle trigonometry will also be developed and used to solve real-life applications. As an honors level student, you will be expected to do more detailed and in depth algebraic work with the Trig functions. Graphing calculators will be used throughout the course.

M4012 CALCULUS - HONORS

2.5 Credits

****Prerequisite: Trigonometry Honors***

The course is offered to seniors the second semester. The course will introduce the student to the mathematics of motion and change. It will give them a basic knowledge of Differential Calculus and an introduction into Integral Calculus. Concepts to be covered include: limits, derivatives, methods of

differentiation and integration, area, and related rates. Also expected from an Honors level student will be more detailed and in depth solutions to Calculus problems. Weekly problem situations will be given to the honors level student that may require some independent work. Both levels will be assessed with the same assessment tool but a different rubric will be applied because of the in depth work that is expected from an Honors level student.

M6072 STATISTICS – HONORS

2.5 Credits

****Prerequisite: Completion of Algebra 1, 2 and Geometry and instructor's recommendation***

This course will emphasize statistical methods focused on understanding the method of calculation and the meaning of the result. The focus will be on data organization and graphical representations; data description and measures of tendency; and correlation and regression. You will utilize graphing calculators as well as excel in the application of these topics.

M6082 PROBABILITY – HONORS

2.5 Credits

****Prerequisite: Completion of Algebra 1, 2 Geometry, and instructor's recommendation***

You will learn procedures for determining the possible outcomes of a given experiment. The focus will be on sets and Venn diagrams; counting techniques, permutations and combinations; and sample spaces and probability of compound events. You will utilize a variety of simulation techniques including real-life experiments, graphing calculators and computers.

M4051 CONSUMER FINANCE

5.0 Credits

****Prerequisite: Algebra 2 CP-2 or instructor's recommendation***

This is a full year course designed for seniors that are looking to enhance their knowledge of mathematics with business applications while they study topics that include personal finance and business mathematics. In this course students will develop a greater comprehension of mathematical related topics such as gross income, net income, savings accounts, charge accounts, credit cards, loans, vehicle transportation, and housing costs. Seniors who have not passed the MCAS exam should enroll in this course.

M5015 ADVANCED PLACEMENT CALCULUS (AB)

5.0 Credits

****Prerequisites: Trigonometry & Pre-Calculus 1***

****Required to take the AP Exam in May***

The Advanced Placement program in Mathematics is designed to provide students with an in-depth understanding of Calculus. Topics fall under the two main branches of Calculus—Differential & Integral. If you elect this course, you must have taken Trigonometry/Pre-Calculus. Summer reading/assignments will be assigned the Spring prior to the course beginning.

M6025 ADVANCED PLACEMENT STATISTICS

5.0 Credits

****Required to take the AP Exam in May***

****Sophomores can take this course based on teacher recommendation only***

The Advanced Placement program in Statistics is designed to provide students with an in-depth understanding of the detailed investigation of concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will be exposed to four main themes in statistical understanding:

exploring data (describing patterns and departures from patterns), sampling and experimentation (planning and conducting a study), anticipating patterns (exploring random phenomena using probability and simulation), and statistical inference (estimating population parameters and testing hypotheses). Students are expected to have a solid understanding of graphical and algebraic concepts, as well as good quantitative reasoning skills.

M4061 ADVANCED TOPICS IN MATHEMATICS 1

2.5 Credits

****Prerequisite: Algebra 1, Geometry, and Algebra 2***

This is a half-year course open to all seniors in order to prepare them for a college level math course. This course is designed to educate students in the area of advanced algebra. While exploring advanced algebra this course will have a brief review of basic algebraic topics and skills before moving onto more challenging topics. Some of the more challenging topics that will be studied will include: rational expressions, variation and polynomial equations, analytic geometry, conic sections, and exponential and logarithmic functions. Graphing calculators will be utilized throughout the course to aid understanding and to ease computation.

M4071 ADVANCED TOPICS IN MATHEMATICS 2

2.5 Credits

****Prerequisite: Algebra 1, Geometry, and Algebra 2***

This is a half year course offered to seniors in order to prepare them for college level math courses. The Trigonometry portion of the course examines and develops the six circular trigonometric functions. After developing the circular functions using degree measurements you will examine the use of them with identities, graphs, equations, and applications. Right triangle trigonometry will then be developed and used to solve real-life applications. After developing right triangle trigonometry you will be introduced to the mathematics of motion and change, Calculus. It will give you a basic knowledge of differential Calculus including such topics as limits, derivatives, methods of differentiation, area, and related rates. Graphing calculators will be utilized throughout the course to aid understanding and to ease computation.

R1111 MATHEMATICS CONCEPTS AND APPLICATIONS 1

5.0 Credits

This course is designed to incorporate basic mathematics and thinking skills. The student will learn the fundamentals needed to utilize the basic operations around the different areas of arithmetic and Pre-Algebra. This is to take advantage of everyday opportunities to promote thinking skills in the classroom and beyond. Cooperative learning, peer interaction, drill exercises, and other activities are employed to help students reinforce these skills. Activities and lessons are designed to reflect the needs of the individual student and the standards outlined in the Massachusetts Frameworks.

R2111 MATHEMATICS CONCEPTS AND APPLICATIONS 2

5.0 Credits

This course is designed to teach the fundamentals of Algebra and Geometry so the student has a practical level of mathematics understanding and application. The exercises and activities are geared to the level of the student so he or she will be able to simplify algebraic expressions, solve equations, and have an understanding of what proofs are and how they are used. The overall goal of the class is comprehension to enable the student to integrate into the general mathematics curriculum.

R3111 MATHEMATICS CONCEPTS AND APPLICATIONS 3

5.0 Credits

This course is designed for the student who needs reinforcement in basic mathematics, Algebra, and Geometry. It is offered as an extension to Mathematics Concepts and Applications 2. It is geared for the students who need more time in the development and understanding of concepts presented in Math Concepts and Applications 2.

R4111 MATHEMATICS CONCEPTS AND APPLICATIONS 4

5.0 Credits

This course is designed for the individual student who needs reinforcement in basic mathematics with the emphasis on real life skills. The focus of the course is to give the student strategies and knowledge needed around money management. The activities and lessons are developed with real life situations around bill paying, banking, and other consumer related issues. The student will see how essential mathematics is used in everyday life.

SCIENCE AND TECHNOLOGY MISSION STATEMENT

By offering a rich and diverse curriculum every student will acquire knowledge, understanding, skills, and appreciation of science and technology. A balanced science curriculum will explain both physical and biological processes and phenomena. Students will learn to integrate their understanding of established theories and codified laws into the areas of technology and engineering. Skill development will include data gathering, analysis, and design using multi-modal communication techniques. Science and technology education will include investigation, experimentation, and problem solving activities. Classroom activities will integrate mathematics and writing skills.

STUDENTS ARE REQUIRED TO PASS A SCIENCE & TECHNOLOGY/ENGINEERING MCAS TO MEET ONE OF THE STATE'S TESTING REQUIREMENTS FOR GRADUATION. MOST NORTHBRIDGE HIGH SCHOOL STUDENTS WILL TEST IN THE AREA OF BIOLOGY IN GRADE 9 AND MAY RETEST IN THE SAME SUBJECT AREA IN SUCCESSIVE YEARS.

SEQUENCE OF SCIENCE & TECHNOLOGY/ENGINEERING COURSES

All students must take three years of lab science classes while enrolled at Northbridge High School to fulfill the 4-year graduation requirement. One year of Biology and Chemistry are required in order to graduate (may differ if on Engineering path).

Grade 9:	Grade 10:	Grade 11:	Grade 12:
Engineering the Future-Honors	Chemistry- Honors	Physics- Honors Physics	Students may elect from the list of course offerings below
Biology - Honors	Chemistry	Anatomy & Physiology-Honors	
Biology		Anatomy & Physiology	

Engineering Academy students should take Biology in 10 grade and Chemistry in 11th grade

STUDENTS MAY ELECT:

(Elective offerings may vary due to staffing or budget constraints)

Grade 9:	Grade 10:	Grade 11:	Grade 12:
-Architectural Design -CAD 1	-AP Biology -Botany -NASA-ICED -*Wildlife Biology 1	Any Science & Technology Course listed for Grade 9 & 10 -*AP Chemistry -*AP Environmental Science -Biotechnology -*Environmental Science -GIS -*Microbiology -*Pathophysiology -*Wildlife Biology 2	Any Science & Technology Course listed for Grade 9-11 -*Advanced GIS -*AP Physics -Science Lab Technician

**-Denotes qualification of a lab science*

SCIENCE & TECHNOLOGY/ENGINEERING COURSE DESCRIPTIONS

S1032 ENGINEERING THE FUTURE – HONORS DESIGNING THE WORLD OF THE 21st CENTURY

5.0 Credits

This course is a full year course developed by the Boston Museum of Science in cooperation with selected high schools. By reading about practicing engineers and completing practical design activities, you will learn about the role and dynamics of engineering in our society. Students will examine how everyone is

affected by changes in technology and how people influence future technological development by the choices they make as workers, consumers, and citizens. Students will be expected to work in a lab environment to design, build, and test prototypes. Students will take the Tech/Engineering MCAS test, which may fulfill their science MCAS test requirements.

S2012 BIOLOGY – HONORS

5.0 Credits

This course is structured for the more advanced science student. The topics of molecular biology, genetics, and evolution will be covered in greater detail and an emphasis will be placed on the practical application of learned concepts. You will design and complete advanced scientific investigations and conduct current literature reviews of biological topics. This course is designed to prepare you for taking the Biology MCAS test. Students that score high enough will be eligible to enroll in AP Biology.

S2011 BIOLOGY

5.0 Credits

This course is designed to give you an appreciation of the vast number of differences among living things and to acquaint you with the unique way in which these living things are equipped to survive in different environments. You will study the cell and cellular processes, principles of heredity and genetics, and the process of evolution. In the end, you will not only recognize the differences, but also the unifying concepts in all the kingdoms of life. Hands on and virtual lab activities will provide you with a greater understanding of concepts covered in class; you will write lab reports and research current biological topics. This course is designed to prepare you for taking the Biology MCAS test.

S3012 CHEMISTRY - HONORS

5.0 Credits

This course is recommended for all college bound students who plan a science related career such as engineering, medicine, or biotechnology. Honors Chemistry also prepares the student to take AP High School Chemistry. This course emphasizes problem solving; a strong mathematics background is required. You will study the topics of atomic structure, the periodic table, chemical composition, chemical reactions and related changes in energy, phases of matter, the gas laws, stoichiometry, solutions, acids and bases, pH, and oxidation/reduction reactions. You will perform advanced chemical laboratory exercises, write detailed lab reports, and apply advanced chemical problem solving skills.

S3011 CHEMISTRY

5.0 Credits

This course is required as study in science especially for any student interested in attending a four-year college. You will study the topics of atomic structure, the periodic table, chemical composition, chemical reactions, phases of matter, the gas laws, stoichiometry, solutions, acids and bases, pH and oxidation/reduction reactions. Extra time is spent in this course on developing applied mathematics and problem solving skills. You will perform many chemical laboratory exercises and be expected to write lab reports.

S4012 PHYSICS - HONORS

5.0 Credits

****Prerequisite: Must have maintained a B- or greater in Honors math classes.***

This course is for the more advanced science student looking to pursue a career in science, engineering, medicine, or mathematics. The student will explore, in depth, the concepts of motion, forces, energy, momentum, waves, sound and light while making links to their everyday life. This will involve the

design and execution of advanced scientific investigations involving quantitative data analysis. Significant emphasis is placed on learning how to properly use a spreadsheet, graphing and formula editors. You will integrate and apply mathematical concepts and scientific inquiry with physical principles. This course is open to juniors and seniors who have taken Honors Geometry and are at least taking Honors Algebra 2 or already completed it.

S4011 PHYSICS

5.0 Credits

This course is for the student interested in the pursuit of a career in science, engineering, medicine or mathematics. The student will explore in depth the concepts of motion, forces, energy, momentum, waves, sound and light while making links to their everyday life. This course includes a combination of laboratory investigations and reading with an emphasis on problem solving skills. The aim is to develop and understanding of the relationship between mathematics, scientific concepts and everyday life. This course is open to qualified seniors only.

S6012 ANATOMY AND PHYSIOLOGY-HONORS

5.0 Credits

****Prerequisite: Honors Biology***

This course is designed for the students in pursuit of a career in human or veterinary medicine, or the health care services as well as other life science majors. You will study the principles of anatomy and physiology in depth. You will investigate the following topics: human cell structure and processes, metabolic regulation, and the human body systems including the skeletal, muscular, digestive, circulatory and respiratory systems. Learned concepts will be applied to the laboratory and case study investigations. This course is open to qualified juniors and seniors.

S6011 ANATOMY AND PHYSIOLOGY

5.0 Credits

****Prerequisite: Biology***

This course is designed for the student in interested in learning more about the human body and who has a potential interest in a career in health care services as well as other life science majors. You will study the basic principles of anatomy and physiology including the structure and function of the human body. You will investigate the following topics: basic structure and function of cells and tissues, metabolic regulation, and the human body systems including the integumentary system, skeletal, muscular, nervous, digestive, circulatory, and respiratory systems. Learned concepts will be applied to laboratory investigations and research projects. This course is open to qualified juniors and seniors.

SCIENCE & TECHNOLOGY/ENGINEERING ELECTIVE COURSE DESCRIPTIONS

S5015 ADVANCED PLACEMENT BIOLOGY

5.0 Credits

****Prerequisite: Biology.;* students must concurrently enroll in AP Biology Lab**

****Required to take AP Exam in May***

****This course is open to qualified sophomores, juniors and seniors***

This course follows the recommended College Board AP Biology curriculum and prepares you for the Advanced Placement Biology exam. You will perform an in depth study of current advanced biological topics including biochemistry, cellular and molecular biology, genetics and biotechnology, evolution, plants, and animals. This course has a demanding workload and should be taken by students wishing to pursue the study of life or medical sciences at the college level. A summer assignment will be assigned.

S5025 ADVANCED PLACEMENT CHEMISTRY

5.0 Credits

**Prerequisite: Chemistry*

**Required to take AP Exam in May*

**This course is open to qualified juniors and seniors*

This course prepares you for the Advanced Placement Chemistry exam, which is given in May. You will perform an in-depth study of four major areas of advanced chemistry, including the structure and state of matter, reactions, thermodynamics, equilibrium, kinetics, molecular geometry, and descriptive chemistry; you will perform sophisticated chemical experiments and various stoichiometric calculations. This course has a demanding workload and should be taken by students wishing to pursue the study of science at the college level. A summer assignment will be assigned.

S5035 ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE

5.0 Credits

**Prerequisite: Biology & Chemistry & Algebra*

**Required to take AP Exam in May*

**Open to Juniors and Seniors*

This course follows the recommended College Board AP Environmental Science curriculum and prepares you for the Advanced Placement Environmental Science exam. You will perform an in-depth study of advanced topics (water, soil and air pollution, climate change, sustainable systems, forestry and wildlife. Class work and research is supported by appropriate application of scientific experimental evidence. This course has a demanding workload and should be taken by students planning to pursue science at the undergraduate college level and beyond. Lab reports will be written in a format that is suitable for publication in peer-reviewed journals.

S5045 ADVANCED PLACEMENT PHYSICS

5.0 Credits

**Prerequisite: Physics & Trigonometry*

**Required to take AP Exam in May*

**Engineering Academy Pathway*

This course prepares you for the Advanced Placement Physics 1 exam, which is given in May and is equivalent to a first-semester college course in algebra-based physics. The course covers kinematics, Newton's Laws, rotational motion, electricity and magnetism, quantum physics, and waves. A significant emphasis will be placed on science practices and inquiry-based investigations. It has a demanding workload and should be taken by students wishing to pursue the study of chemistry, physics, engineering, or architecture at the college level. Completion of a summer assignment is required.

S7702 NASA-ICED COLLABORATIVE

5.0 Credits

**Engineering Academy Pathway*

The NASA Senior Advisor for Innovation, Dr. Charles Camarda, has formulated and proposed the Innovative Conceptual Engineering Design (ICED). This methodology involves bringing real-world, open-ended, "epic" engineering challenges. In the first quarter, students focus on team building and immersing themselves in the epic challenge. This leads to creative concept generation in the 2nd quarter. The 3rd quarter is devoted to rapidly concept development.. The Students could work with representatives from NASA, universities (e.g., MIT), and The United States Air Force. This course may be taken several years in a row.

S6112 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

2.5 Credits

****Prerequisite: Enrollment in the Engineering Academy***

Welcome to the world of global technology! Geographic Information Systems introduces the student to spatial analysis using maps. GIS is a database of information about the real world, such as populations, highways and waterways, represented by points, lines and areas maps. You will use the professional ArcMap Software program to gather data and create maps. Since students will complete all coursework in the computer lab, you must have an active NHS computer account and be present consistently. This course is recommended for students pursuing a career in engineering.

S6113 ADVANCED GIS: SPATIAL ANALYSIS APPLICATIONS

2.5 Credits

****Prerequisite: Introduction to GIS***

The goal of this course is to have students expand their GIS skill-set from software knowledge to topological specialties. Each student develops a new GIS skill by taking an online course at the Environmental Science Research Institute's (ESRI) website so they may to analyze a real world data from a class or organization in which they're interested. For example, they could track infectious diseases using a medical module in which historical data coupled with modern data are ground-truthed and applied to solve a problem or answer a question through a set of visual maps. Behind the maps are powerful databases that highlight information required by the end user. The 3rd quarter will tap into students' individual interests and skill sets by matching tools to their applications. The 4th quarter requires the student to work with a local organization to provide useful data and maps to them. The Blackstone Heritage Corridor, Riverbend Farm, our surrounding towns and other businesses may welcome to opportunity to have data provided to them by our students. If no such partnership is available then the student would successfully complete a free online course at the ESRI University and become certified in a GIS specialty such as Python programming or 3D Modeling. A Capstone Project or successful externship is required.

S6173 BIOTECHNOLOGY

****Prerequisite: Juniors and Seniors that have passed Biology & Chemistry***

Students will explore the fundamental principles of biotechnology and business applications. Units of study include: plant tissue culturing; plant and animal agriculture; DNA, RNA, and protein technologies; genetic diagnostics; healthcare and pharmaceuticals; food processing (GMO's); fermentation technology; energy and environmental management; forensic science; cloning; stem cells; and bioethics.

S6171 MICROBIOLOGY

2.5 Credits

****Prerequisite: Biology***

This course is for students interested in a deeper understanding of the microbial world. The course will explore the world of bacteria, viruses, and protists for a more intensive look at their interaction in our everyday lives. You will investigate the diversity of microbes and their applications in the field of medicine, biotechnology, and ecology. This course includes both lecture, case study, laboratory activities, and conclude with capstone project of solving patient unknown bacteria in a patient sample.

S6217 PATHOPHYSIOLOGY

2.5 Credits

****Prerequisite: Biology***

This course provides an in-depth study of human pathological processes and their effects on homeostasis. Emphasis is on interrelationships among organ systems in deviations from homeostasis. Upon

completion, students should be able to demonstrate a detailed knowledge of pathophysiology. Course topics include physical signs and symptoms, prognosis and complications of commonly occurring diseases and their management. Students will work collaboratively to solve patient case studies with appropriate diagnosis and treatment. Students will learn how to run diagnostic clinical tests and interpret results to help reach a conclusion of the symptoms presented by each patient. Students will be evaluated by tests, quizzes and patient analysis.

S6131/S6132 INVERTEBRATE ZOOLOGY

2.5 Credits

**Not Offered in 2017-2018*

**Prerequisite: Biology*

**Offered in the Fall only*

**You may take this course with or without Vertebrate Zoology*

This course is an introduction to the study of invertebrate animals (animals without a backbone). You will explore the following animal phyla from an evolutionary approach: Phyla Porifera and Cnidaria (sponges and jellyfish) Phyla Platyhelminthes, Nematoda, Annelida (worms), Phylum Arthropoda (insects, spiders, and lobsters), and Phylum Mollusca (snails, octopus and squid). This course is recommended for students with an interest in biology, animal care, veterinary medicine, and marine science and is highly recommended for those interested in taking Advanced Placement Biology. There will be **mandatory** dissections and lab practical. Knowledge of scientific vocabulary is essential.

S6211/S6212 VERTEBRATE ZOOLOGY

2.5 Credits

**Not Offered in 2017-2018*

**Prerequisite: Biology*

**Offered in the Spring only*

**You may take this course with or without Invertebrate Zoology*

This course is an introduction to the study of vertebrate animals (animals with a backbone). You will study the animals in Phylum Chordata including: fishes, amphibians, reptiles, birds, and mammals. You will also study animal behavior. This course is recommended for students with an interest in biology, animal care, veterinary medicine, and marine science and is highly recommended for those interested in taking Advanced Placement Biology. There will be **mandatory** dissections and lab practical. Knowledge of scientific vocabulary is essential.

S6051 BOTANY

2.5 Credits

**Prerequisite: Biology*

This course is an introduction to the study of plants. It is recommended for students with an interest in agriculture, landscaping, ecology, gardening, forestry, and biology. Laboratory investigations, activities, and lectures will reveal basic plant structures, growth requirements, and the vital role that plants play in our natural world. You will be responsible for many planting projects and maintenance of the school greenhouse; you will also participate in planting throughout the entire NHS campus.

S6091 ENVIRONMENTAL SCIENCE

2.5 Credits

This survey course introduces students to introductory concepts of environmental science. Hands on application in the laboratory teach you basic skills of water and soil testing as well as monitoring air quality. You will gain an appreciation of ecosystems and how human alteration of the environment can

affect all life. To take this course, you should have a strong interest in the environment and be able to work outdoors. Environmental careers are highly demanded in today's marketplace. Many entry-level positions are technical and only require a two year degree. With the constant contamination of our water, soil and air, these careers will remain in high demand for many years. Each student prepares an environmental science project and presents it to the class as a capstone project.

G6063 SCIENCE LAB TECHNICIAN

1.25 Credits

****Prerequisite: permission or recommendation from Instructor***

Student will assist all science department instructors in the preparation and cleanup of materials needed for various scientific experiments. Lab tech will be assigned one teacher mentor but will float within the science department as needed to serve as peer mentor to students conducting scientific labs in core science classes. Lab tech responsibilities will primarily include solution preparation, materials gathering, setup and cleanup, conducting inventory surveys, and organizing stored lab equipment.

S7502 CAD 1

2.5 Credits

****Fall Only***

****Engineering Academy Pathway***

CAD 1 serves as an introduction to Solidworks, an industry leading engineering software program. Students will learn how to create a variety of objects in the CAD program in both 2D and 3D. While learning the fundamentals of drafting and design, students will be challenged to design a scale model of a formula 1 race car. The formula 1 race car will undergo virtual stress tests. The final design will be physically constructed and tested in the wind tunnel. The class culminates with the students racing their cars competitively. This class may be used as science or computer technology literacy elective credits.

A6154 ARCHITECTURAL DESIGN

5.0 Credits

This will be a full year course in which students will explore architecture through art and engineering. Students will gain a deeper understanding of drafting both on paper and in CAD, will fabricate, design, and build structures based upon floor plans of their own design. Students will gain a comprehensive understanding of space and form, develop the ability to translate 2D drawings and designs into 3D models, and understand and implement building codes and zoning laws. All of this, while infusing personal style and the demands of the public. Students will leave this class with a portfolio designed to meet the requirements for acceptance into an architectural program at the college level.

S6219 WILDLIFE BIOLOGY 1

2.5 Credits

****Prerequisite: Passing Grade in Biology***

****Health Academy Pathway***

An emerging field in veterinary science is wildlife rehabilitation due to increased human/wildlife interactions. This course trains students in the basics of wildlife biology and rehabilitation methods. Students learn wildlife physiology, identification, restraint, thermoregulation, how to recognize and treat emergency situations including stress and shock. Zoonoses, nutrition and euthanasia are other topics of study. Fluid therapy exercises require students be comfortable using dimensional analysis. Students will work with cadavers of rats and pigeons stored in buckets of preservatives. Be aware of allergies. Scrubs are required for labs.

S6220 WILDLIFE BIOLOGY 2

2.5 Credits

****Prerequisite: Wildlife Biology 1***

****Health Academy Pathway***

This course emphasizes pain and wound management, parasitology and zoonoses. All animals have parasites. Understanding them leads to better care of wildlife in zoos or rehabilitation centers and can reduce the spread of disease. Zoonotic diseases (diseases passed from animals to humans) pose a serious risk to all who come in contact with a sick animal which may be asymptomatic. Professionals and students in veterinarians are sometimes viewed as a community resource. Students learn about the risks, prevention, and management of zoonoses, including acting as a resource to the public for information on zoonotic diseases. Wound and pain management provides a systematic review of the physiology and treatment of the most common types of soft-tissue wounds seen in injured species. Students develop a working knowledge of the vocabulary and concepts underlying the modern approach to pain management. Students will work with cadavers of rats and pigeons stored in buckets of preservatives. Be aware of allergies. Scrubs are required for labs.

SOCIAL STUDIES DEPARTMENT MISSION STATEMENT

The Social Studies Department strives to assist every student in the development of his/her curiosity and imagination as well as their powers of observation, analysis, intuition, and critical thinking through the teaching of the social sciences. Students are encouraged to appreciate their role in society and as citizens of a global society. Students are encouraged to develop the skills to work both individually and cooperatively. It is stressed that they accept responsibility for self and others, respect differences and to appreciate the strength found in our diversity. We strive to foster in our students integrity, openness, creativity, persistence, community spirit, and respect for other people in all their diversity. We provide opportunities for experiences that promote global awareness and understanding, exposure to different cultures, public speaking, and expression of ideas, and other forms of individual and group achievement.

SEQUENCE OF SOCIAL STUDIES COURSES

All students must take three years of social studies while enrolled at Northbridge High School to fulfill the 4-year graduation requirement. The required classes include World History, American Studies 1 and American Studies 2, or the equivalents.

Grade 9:	Grade 10:	Grade 11:	Grade 12:
World History Honors	Pre-AP US History Honors	AP US History	Any Elective Offered Below in Grades 10 & 11
World History	American Studies 1 Honors	American Studies 2-Honors	
	American Studies 1	American Studies 2	

STUDENTS MAY ELECT:

Elective offerings may vary due to staffing or budget constraints

Grade 9:	Grade 10:	Grade 11:	Grade 12:
	-Eastern Cultures -Western Cultures	Any course Listed in Grade 10 and/or: -Citizenship in Action -Homeland Security -Law -Facing History & Ourselves -Psychology	Any electives Offered in Grades 10 & 11 -AP Government & Politics -AP Psychology

SOCIAL STUDIES COURSE DESCRIPTIONS

H1012 MODERN WORLD HISTORY - HONORS

5.0 Credits

A comprehensive survey course in Modern World History that follows the time from approximately 1600 C.E. to the 21st century. You will engage in an in-depth exploration of the events in history as they are exposed to a variety of historical figures, theories, and perspectives. You will review the formation and transformation of culture in the Eastern and Western worlds. Focus and debate on social movements, political changes, economic development, nationalism, imperialism, industrialization, revolution, and international relationships will be present throughout the course, and you will have opportunities to relate personal perspectives to historical facts. You will analyze the role of important primary source documents from the different time periods, and make connections between the documents and their impact on governmental, social, and economic changes of nations throughout the world. You will be able to compare and contrast as well as draw connections between past occurrences and current events. You will

cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information. You will compare the point of view of two or more authors to how they treat the same or similar topics, including which details they include and emphasize in their retrospective accounts. And you will write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.

H1011 MODERN WORLD HISTORY

5.0 Credits

A comprehensive survey course in Modern World History that follows the time from approximately 1600 C.E. to the 21st century. You will engage in an in-depth survey of the events in history as they are exposed to a variety of historical figures, theories, and perspectives. You will review the formation and transformation of culture in the Eastern and Western worlds. Focus and debate on social movements, political changes, economic development, nationalism, imperialism, industrialization, revolution, and international relationships will be present throughout the course, and you will have opportunities to relate personal perspectives to historical facts. You will analyze the role of important primary source documents from the different time periods, and make connections between the documents and their impact on governmental, social, and economic changes of nations throughout the world. You will be able to compare and contrast as well as draw connections between past occurrences and current events. You will cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information. You will compare the point of view of two or more authors to how they treat the same or similar topics, including which details they include and emphasize in their retrospective accounts. And you will write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.

H2052 PRE-AP US HISTORY - HONORS

5.0 Credits

**This course is a prerequisite for AP US History*

A comprehensive United States History course focusing on the Colonial era through Reconstruction. This course makes major thematic connections with the humanities through literature, art, and film to examine America's story. Historical, social, political, and economic movements will be presented throughout the course. The pace of this course is more rigorous and involves outside reading of a college-level text, as well as numerous supplemental readings, including but limited to historical novels, biographies, and primary sources. Class time is spent on analysis of the historical significance of the readings. In addition, document-based questions and free-response essay writing is introduced. An in-depth investigation of the formation and transformation of the U.S. governmental powers, the role of local and state governments, and the civic responsibilities of citizens will also take place. (Students who wish to move from American Studies 1 to AP US History must meet with the teacher and get prior approval.)

H2012 AMERICAN STUDIES 1 - HONORS

5.0 Credits

A comprehensive United States History course focusing on the post-colonization period (1760's) to Pre-World War 1 (1900's), this course will make major thematic connections with English and Early American literature, culture, and traditions. Historical, social, and political movements will be presented throughout the course. You will interpret and analyze the unification process that led to the founding political/legislative documents and determine the extent of the historical significance and applicability of each to modern/current events. Using Common Core and Massachusetts State Frameworks, students will analyze primary source materials and craft written responses to demonstrate their understanding of historical concepts. Students will also research and build upon their historical knowledge to draw parallels

to current events and trends in our social and political world. Examination of the formation and transformation of U.S. governmental powers, the role of local and state governments, and the civic responsibilities of citizens will also take place.

H2011 AMERICAN STUDIES 1

5.0 Credits

A comprehensive United States History course focusing on the post-colonization period (1760's) to Pre-World War 1(1900's), this course will make major thematic connections with English and Early American literature, culture, and traditions. Historical, social, and political movements will be presented throughout the course. You will be introduced to the founding political/legislative documents with emphasis on the historical significance of each and relationship to today. Using Common Core and Massachusetts State Frameworks, students will analyze primary source materials and craft written responses to demonstrate their understanding of historical concepts. Students will also research and build upon their historical knowledge to draw parallels to current events and trends in our social and political world. Examination of the formation and transformation of U.S. governmental powers, the role of local and state governments, and the civic responsibilities of citizens will also take place.

H5015 ADVANCED PLACEMENT US HISTORY

5.0 Credits

**Required to take the AP Exam in May*

**Prerequisite: Pre-AP US History or approval of the course instructor*

The Advanced Placement program in American History is designed to provide you with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in American History. The program prepares you for intermediate and advanced college courses. The pace of this course is rigorous and involves outside reading of a college-level text, as well as numerous supplemental readings, including but not limited to historical novels, biographies, and primary sources. Class time is spent on analysis of the historical significance of the readings. In addition, regular timed writings (Document-Based Questions and Free-Response) and several practice exams are given throughout the year. Summer reading is the first chapter of *The American Pageant* with chapter response essays, one project is assigned as a review on topics through to causes of the American Revolution, and an assigned book and completion of a book analysis.

H3012 AMERICAN STUDIES 2 – HONORS

5.0 Credits

A comprehensive United States History course focusing on early 20th century to present day that will incorporate the teaching thematic units relating to aspects of government, culture, world events, and economics within the timeline of US History. Many of the themes will coincide with the literature of the same period covered in English 3, and will include concepts of democracy, citizenship, social history, geography, and multiculturalism. Relationships between social and political policy and daily life will be made and discussed. You will review and discuss primary sources and their impact on changes to American society by providing accurate summaries and evaluating differing points of view on the same historical event, as stated in the Massachusetts Curriculum Framework Standards for Literacy in History/Social Studies.

H3011 AMERICAN STUDIES 2

5.0 Credits

A comprehensive US History course focusing on early 20th century to present day that will incorporate the teaching thematic units relating to aspects of government, culture, world events, and economics within

this time of US History. Many of the themes will coincide with the literature of the same period covered in English 3, and will include concepts of democracy, citizenship, social history, geography, and multiculturalism. Relationships between social and political policy and daily life will be made and discussed. You will review and discuss primary sources and their impact on changes to American society by providing accurate summaries and evaluating differing points of view on the same historical event, as stated in the Massachusetts Curriculum Framework Standards for Literacy in History/Social Studies.

SOCIAL STUDIES ELECTIVES COURSE DESCRIPTIONS

H6051/H6052 LAW

2.5 Credits

This course introduces you to the judicial system of the United States from historical and sociological perspectives. Aspects of criminal, civil, contract law will be addressed, both independently and as they relate to civil rights, differences between juvenile and adult proceedings, roles of lawyers, judges and juries and the operation of the court system at the local/district, state and federal levels. Basic principles of consumer, business, marriage, and housing law will be presented. An overview of state and federal correction systems will be introduced. You will have opportunities to explore this aspect of society through case studies, field trips, and guest speakers, project-based assignments and mock court/trial activities.

H6132 PSYCHOLOGY

2.5 Credits

****It is highly recommended students take this course in their junior year prior to Advanced Placement Psychology***

****This course is a prerequisite for AP Psychology***

The course is intended for students with an interest in taking psychology courses at a post-secondary level. Major psychological schools of thought, theories, and perspectives are analyzed. More in-depth coverage of topics included and, additionally abnormal psychology; research methods; experimental design; and therapy models. You will design, run, and evaluate an experiment relating to a relevant topic from the course. Participation in class discussions, debates, research, and writing assignments is required.

H5035 ADVANCED PLACEMENT PSYCHOLOGY

5.0 Credits

****Prerequisite: Psychology H or approval of the course instructor***

****Students that have taken Psychology Honors have first priority in scheduling***

****Required to take the AP exam in May***

The purpose of AP Psychology is to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students will be exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. The ultimate goal of Advanced Placement Psychology is for students to do acceptable work on the AP Psychology exam in May. By learning the major concepts and theories of psychology and studying and implementing psychological research methods, they will develop the critical thinking skills needed to achieve their goal. In preparation for the AP exam in May, there will be extensive coverage of material both inside and outside of class. There will be extensive outside research expected of each student to have a thorough understanding of the main concepts of psychology.

H5036 ADVANCED PLACEMENT GOVERNMENT & POLITICS

5.0 Credits

**Students must be recommended by their American Studies 2 Teacher or have permission from the instructor*

**Required to take the AP exam in May*

Advanced Placement United States Government and Politics will give students an analytical perspective on government and politics in the United States. This course includes both the study of general concepts used to interpret U.S. government and politics and the analysis of specific examples. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. government and politics. Students will become acquainted with the variety of theoretical perspectives and explanations for various behaviors and outcomes. Students who successfully complete this course will know important facts, concepts, and theories pertaining to U.S. government and politics. They will also understand typical patterns of political processes and behavior and their consequences (including the components of political behavior, the principles used to explain or justify various government structures and procedures, and the political effects of these structures and procedures). Finally, students will be able to analyze and interpret basic data relevant to U.S. government and politics (including data presented in charts, tables, and other formats) as well as be able to critically analyze relevant theories and concepts.

H6192 CITIZENSHIP IN ACTION

2.5 Credits

Civic involvement is more than a phrase; it translates into making an effort to care about the world around you beginning with your community. This course is designed to prepare the student's transition from a legal minor to adult citizens with the practical goal of making you ready to exercise their rights and obligations on the local, state and federal level of government. It seeks to identify and explore their roles of citizenship in everyday life using tools ranging from new technology to more traditional formats. Readings, research and class work to be supplemented by outside speakers and simulations.

H6031/H6032 HOMELAND SECURITY

2.5 Credits

**Open to juniors and seniors or with teacher approval*

This course will provide you with the historical background leading up to America's present response to domestic and foreign attacks. You will learn about the religious, political and environmental movements that have turned to terrorism as alternatives to traditional means to achieve change. The focus will be on the events leading up to the September 11th attacks, the attacks themselves, and the US short and long term responses. Your role in personal and community security will be explored; you will be introduced to educational and career opportunities in this field.

H6171/H6172 EASTERN CULTURES

2.5 Credits

This course is designed to give students an opportunity to study and understand the five themes of geography as they relate to different eastern regions of the world: Asia, Africa, Australia, and the Middle East. Students will interact with the regions' customs, music, food as well as history and economics. Students will demonstrate their knowledge of these geographical themes through a variety of critical thinking activities, videos, cooking, projects and class discussions.

H6181/H6182 WESTERN CULTURES

2.5 Credits

This course is designed to give students an opportunity to study and understand the five themes of geography as they relate to different western regions of the world: The Americas (excluding the USA), Europe and Russia. Students will interact with the regions' customs, music, food as well as history and economics. Students will demonstrate their knowledge of these geographical themes through a variety of critical thinking activities, videos, cooking, projects and class discussions.

H6191 FACING HISTORY & OURSELVES: THE HOLOCAUST AND HUMAN BEHAVIOR

2.5 Credits

A unique blend of personal reflection, psychology, and history this course examines how genocide can occur in a world thought to be so advanced. It examines the topics of prejudice, discrimination, and scapegoating while also studying human dignity, morality, law, and citizenship. Throughout the course we will study the choices made by average citizens and through the formation of our classroom community develop a sense civic courage and justice. This course is based on the Decision Making in Times of Injustice curriculum out of the nonprofit organization Facing History and Ourselves out of Brookline, MA.

WORLD LANGUAGE DEPARTMENT MISSION STATEMENT

The Northbridge World Language Department believes that language and communication are keys to student success in today’s global world. Competence in more than one language and culture will enable students to communicate with people from other cultures in a variety of settings, look beyond their own borders, and develop insight into their own language and culture. Based on these beliefs, we offer all students the opportunity to study French and Spanish. They will engage in speaking, listening, reading, and writing activities designed to develop their language proficiency. They will work independently, collaboratively and creatively. They will use technology and media to connect authentically with diverse cultures and peoples and make frequent comparisons between English and their second language.

SEQUENCE OF WORLD LANGUAGE COURSES

Students must take a minimum of two years of a language sequence at the high school level (a minimum of 10 credits) as recommended by the Massachusetts Board of Higher Education as minimum standards for admission to the Commonwealth’s four-year public institutions. Three years of a language is highly recommended. Languages are full-year courses and must be taken chronologically.

Grade 9:	Grade 10:	Grade 11:	Grade 12:
French 1 Honors French 1 Spanish 1 Honors Spanish 1	Students May Elect Any Grade 9 Course Offering French 2 Honors French 2 Spanish 2 Honors Spanish 2	Students May Elect Any Grade 9 and/or Grade 10 Course Offering French 3 Honors French 3 Spanish 3 Honors Spanish 3 Spanish 4 Honors Pre-AP Spanish 4 Honors	Students May Elect Any Grade 9, 10 or 11 Course Offering AP Spanish Language & Culture

WORLD LANGUAGE COURSE DESCRIPTIONS

***Both French/Spanish 1 and 2 will run with CP and Honors levels within the same classroom. Students, with the recommendation of a language teacher, will choose the level of language that they prefer. Differentiation of the courses will take place through assessments, grading criteria, and classwork and homework assignments.**

***L1012 FRENCH 1- HONORS**

***L1011 FRENCH 1**

***L1032 SPANISH 1- HONORS**

***L1031 SPANISH 1**

5.0 Credits

You will develop the four skills involved in the learning of any language; listening comprehension, speaking, reading, and writing. You will also learn about French/Hispanic culture and customs. The teacher will use the target language extensively in the classroom, and you will be expected to participate in the foreign language as soon as possible. You can expect to use the language laboratory regularly in these courses in order to promote accurate pronunciation, listening, and speaking skills. You will be able to complete a variety of writing assignments by second semester.

***L2012 FRENCH 2- HONORS**

***L2011 FRENCH 2**

***L2032 SPANISH 2- HONORS**

***L2031 SPANISH 2**

5.0 Credits

****Prerequisite: 2 Honors requires a B- or better in 1 Honors or teacher recommendation***

You will continue to develop the four basic skills introduced in French/Spanish 1 in these second year courses. You will complete supplementary projects and activities to aid in your mastery of these basic skills. You will use the foreign language frequently in the classroom. You will also use the language lab regularly as a learning aid and as a means of reinforcement. At this point, you will use the Internet as a research tool and a means of accessing authentic language materials.

L3012 FRENCH 3 - HONORS

L3032 SPANISH 3 - HONORS

5.0 Credits

****Prerequisite: B- or better in French/Spanish 2***

This third year of language offers a rigorous study of grammar as you begin to prepare for college-level work. Your skills in speaking and listening comprehension will expand and you will learn to express more of your ideas and opinions in French or Spanish. You will also write on a more regular basis. You will study the French or Spanish people through their customs, cultures, and countries and as a result have a better understanding of their way of life. You will use the language lab on a weekly basis to improve your ability to comprehend and speak French or Spanish. The Internet will provide you with access to authentic language materials. In addition, you will read some form of French or Spanish literature. Your second language will be your primary means of communication.

L3011 FRENCH 3

L3031 SPANISH 3

5.0 Credits

****Prerequisite: Passing grade in French/Spanish 2***

This third year of language study will help you to reinforce and build upon the basic skills you acquired in French or Spanish 2. You will complete a variety of supplementary projects and activities to aid in your development of these basic skills. Also you will read one example of children's literature in French or Spanish. Studying the French or Spanish people through their customs, cultures, and countries will increase your ability to speak to and understand them. Regular use of the language lab will benefit your speaking and comprehension skills as well as provide you with access to authentic French or Spanish materials.

L4033 PRE-AP SPANISH 4 - HONORS

5.0 Credits

****Prerequisite: B- or better in Spanish 3 Honors and students on the student is on the AP track***

You will use the target language extensively to express yourself orally and in writing. You will study advanced points of grammar in conjunction with readings taken from contemporary literature and current events. You can expect to use the language laboratory and current technology to refine your skills. The pace of this course is more rigorous in order to prepare you for the AP Spanish Language and Culture course. The goal this year is to use the target language in practical ways with ease.

L4032 SPANISH 4 - HONORS

5.0 Credits

****Prerequisite: B- or better in French 3 Honors/Spanish 3 Honors***

You will use the target language extensively to express yourself orally and in writing. You will study

advanced points of grammar in conjunction with readings taken from contemporary literature and current events. You can expect to use the language laboratory and current technology to refine your skills. You will read selected poems and short stories as time allows. The goal this year is to use the target language in practical ways with ease.

L5032 AP SPANISH LANGUAGE & CULTURE

5.0 Credits

****Required to take AP Exam in May***

The AP Spanish Language and Culture course is a rigorous course that provides students with the opportunities to demonstrate their language proficiency skills across the three modes of communication: Interpretive, Interpersonal, and Presentational. Students learn about culture through the integration of authentic online and traditional print, audiovisual, and audio resources that are representative of the Spanish-speaking world. Materials include podcasts, literary works, newspaper and magazine articles, interviews, movies and documentaries, charts, and graphs. The purpose of this course is to offer students an understanding of the Hispanic world and provide students with the opportunity to acquire the skills necessary to allow them to communicate successfully in an environment where Spanish is spoken. Therefore, to create an immersion experience, Spanish is spoken exclusively by both the teacher and students of this course.

**CODE OF THE TOWN OF NORTHBRIDGE MASSACHUSETTS, v15 Updated
11-01-2015 / DIVISION 1 Code of Bylaws / Chapter 4, ADMINISTRATIVE
ORGANIZATION / SECTION 4-300, MULTIPLE-MEMBER BODIES / § 4-321. Town
Manager Screening Committee. [Added 10-25-2011 ATM, Art. 7]**

§ 4-321. Town Manager Screening Committee. [Added 10-25-2011 ATM, Art. 7]

A. Establishment. A Town Manager Screening Committee of five members shall be established whenever the office of Town Manager is vacant for the purpose of soliciting, receiving and evaluating applications for the position of Town Manager.

B. Mode of appointment. Two members shall be appointed by the Moderator, one member shall be appointed by the School Committee, one member shall be appointed by the Personnel Board and one member shall be appointed by the Planning Board.

C. Authorities and responsibilities. The Screening Committee shall review all applications that are received by it, screen all such applicants by checking and verifying work records and other credentials, and provide for interviews to be conducted with such number of candidates as it deems to be necessary, desirable or expedient.

D. Interrelationships. Not more than 120 days following the date on which the Committee meets to organize, the Committee shall submit to the Board of Selectmen the names of not fewer than three nor more than five persons whom it believes to be best suited to perform the duties of the office of Town Manager.

E. Dissolution. Upon the appointment of a Town Manager, the Committee established hereunder shall be considered discharged.

**ARTICLE 4
TOWN MANAGER**

Section 4-1 Screening Committee; Appointment; Qualification; Term

- (a) **Screening Committee**- The board of selectmen shall appoint a town manager from a list prepared by a screening committee. A screening committee shall be established whenever the office of town manager is vacant for the purpose of soliciting, receiving and evaluating applications for the position of town manager.

[A new bylaw pertaining to this section was created under Article 7, FATM 10/25/11]

Revised information is crossed out and new information is underlined.

Until such time as some other provision is made by bylaw the screening committee shall consist of five persons who shall be chosen as follows: the school committee, personnel board and planning board shall each designate one person, and ~~three~~ two persons shall be chosen by the town moderator. Persons chosen by the said agencies may, but need not, be members of the agency by which they are designated: the town moderator may, insofar as it may be feasible so to do, appoint persons who will broaden the membership base of the committee to be most representative of the demographic and occupational base of the town.

The screening committee shall review all applications that are received by it, screen all such applicants by checking and verifying work records and other credentials, and provide for interviews to be conducted with such number of candidates as it deems to be necessary, desirable or expedient.

Not more than 120 days following the date on which the committee meets to organize the committee shall submit to the board of selectmen the names of not less than three nor more than five persons whom it believes to be best suited to perform the duties of the office of town manager.

Within thirty days following the date the list of nominees is submitted to it the board of selectmen shall choose one of the said nominees to serve as town manager.

Upon the appointment of a town manager the committee established hereunder shall be considered discharged.

**SCHOOL COMMITTEE
AGENDA ITEM SUMMARY
(ACTION ITEM)**

Agenda Item # _____
For School Committee Meeting of
February 28, 2017

SUBJECT: NASA ICED Class Trip to NASA Langley in Hampton, VA

Person(s) preparing Agenda Item: James Gorman, teacher

Title:

Listing of Attachments (supporting documentation):

- NHS Field trip application

BACKGROUND: The NASA ICED class was challenged by Dr. Camarda, NASA Senior Advisory for Innovation, to study and design a solution to help create a sustainable human colony on Mars. He has invited me and the students to NASA Langley in Hampton, VA to present their results.

STATUS: Field trip is pending school committee approval

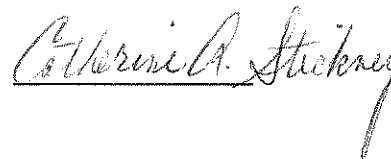
RECOMMENDATION: I recommend approval of the field trip.

Financial Implication: None, this trip is student funded

Recommended by:



Recommended by the Superintendent:



Northbridge High School Field Trip application

Check all that apply.

Out of State Trip

Sponsoring Teacher: James Gorman Date of request: 12/09/2016

Destination(s): NASA Langley in Virginia

Name of participating club, class, activity, etc. NASA ICED Class & a group from DECA

Anticipated Number of Students: 24 Number of Chaperones: 2

Date(s) of trip: Times – From March 22, 2017 3 AM To March 25, 2017 6:30 PM

How will this Field Trip accomplish curriculum enhancement? (Attach a separate sheet if needed) The students will be traveling down to NASA Langley in Virginia to present their projects at the NASA ICED 2017 conference.

List a minimum of two learning objectives:(Attach a separate sheet if needed)

- Students will be able to present to a large group of people including content specialists.
- Students will learn about and experience cutting edge NASA research

Transportation: (Please detail) Bus

Cost: (Please detail) The cost for the transportation is about \$7000 according to the most recent quotes. The students are funding every aspect of this trip. Total cost is between \$700 and \$1000 per student.

Names of Adults/Teachers participating: Mr. Gorman and a parent

Note: All substitute coverage needed must be sent to Dept. Chair and Dean of Students at least 1 week prior.

I have discussed this field trip with the sponsoring teacher and believe its educational value warrants my recommendation.

[Signature] 12/9/2016
 Signature of Department Chairperson Date

[Signature] 12/22/16
 Signature of Department Chairperson Date

Approval of Principal _____ Date _____

Overnight/Out-of-state trip - If checked - Trip must go before school committee for approval

Comments: _____

Lunchroom Notification: Yes - Date 12/9/2016

Lunch/food plans for trip : students are on their own to purchase meals

Nurse Notification Signature: [Signature] Date: 12/22/16

Notification of other affected staff: _____

Dept. Chair Dean of Students