



# *Needham School Committee*

## *Broadmeadow Performance Center*

*January 24, 2023*

*6:30 p.m.*

Broadcast on the Needham Channel municipal and HD channels, live stream at:

<https://needhamchannel.org>

Please click the link below to access meeting for Public Comments:

<https://us02web.zoom.us/j/82204035441?pwd=SWhtSXFPZmZCa2U2b3EyRms1WnFGUT09>

Webinar ID: **822 0403 5441** Passcode: **812337**. Or One tap mobile:US: +13126266799



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## Needham School Committee

January 24, 2023 6:30 p.m.

**Broadmeadow School Performance Center**

**Next School Committee Meeting: February 7, 2023 6:30 p.m.**

Broadcast on the Needham Channel municipal and HD channels, live stream at: <https://needhamchannel.org>

Please click the link below to access meeting for Public Comments:

<https://us02web.zoom.us/j/82204035441?pwd=SWhtSXFPZmZCa2U2b3EyRms1WnFGUT09>

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**6:30 p.m. Public Comments**

**6:35 p.m. School Committee Chair and Subcommittee Updates**

**6:40 p.m. Superintendent's Comments**

### **Discussion Items**

**6:45 p.m. Student Presentation: Portrait of a Needham Graduate**

**7:15 p.m. 2023-2024 Middle School & High School Program of Studies**

**8:00 p.m. Athletic Program Update**

**8:30 p.m. Action Item**

Vote FY24 Budget Recommendation

**8:45 p.m. School Committee Comments**

### **Information Items**

- Westborough Public Schools Requesting Admittance to ACCEPT Education Collaborative
- [Black Ice](#) Documentary
- FY24 Revolving Funds Budget Requests: Transportation and Athletics



## Needham School Committee

January 24, 2023

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Agenda Item:    **Public Comments**

Background Information:

- The School Committee Chair will offer the opportunity for the public to speak to the School Committee on issues not on the agenda.



## Needham School Committee

January 24, 2023

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Agenda Item:     **School Committee Chair and Subcommittee Updates**

Background Information:

- The Chair and subcommittee members may offer brief updates on issues not on the agenda.

Members of the School Committee available for comment:

Matthew Spengler, Chair

Andrea Longo Carter, Vice Chair

Connie Barr

Michael Greis

Elizabeth Lee

Michael O'Brien

Alisa Skatrud

Dilin Meloni, Student Representative member of School Committee

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## Needham School Committee

January 24, 2023

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Agenda Item:     **Superintendent's Comments**

Background Information:

Superintendent Daniel E. Gutekanst will apprise the School Committee of events, information, and matters of interest not on the agenda.



## Needham School Committee

January 24, 2023

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Agenda Item:     **Discussion**

**Student Presentation: Portrait of a Needham Graduate**

Background Information:

- Throughout the school year different schools and staff will share how one of the five attributes in the Portrait of a Needham Graduate are reflected in teaching and learning in the Needham Public Schools:

Creative Thinkers and Problem Solvers  
Communicators and Collaborators  
Socially and Culturally Responsive Contributors  
Responsible and Resilient Individuals  
Empowered Learners

- Teachers and students from Needham High School will share their experience at your meeting.

Person(s) Available for Presentation:

Jimmy Odierna, Math Teacher

Jill Krajewski, Biology Teacher

John Sherry, Physics Teacher

9IP Students - Brooke DeMaio and Amina Kamara

10IP Students - Jason-Christian Andrade, Justin Maira, and Sam Treacy

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## PORTRAIT OF A NEEDHAM GRADUATE

SHARED VISION OF THE FUTURE FOR OUR PRE-K TO 12 STUDENTS



# Needham High School

**A caring community striving for personal growth and academic excellence.**

# 9th and 10th Grade Interdisciplinary Program (9IP and 10IP)



**Mathematics**



**Biology**



**English**



**World History**



# 9th/10th Grade Interdisciplinary Program

- x A project-based approach to interdisciplinary learning at the honors level in each grade - best as heterogeneous classes
- x Curriculum content the same as traditional classes
- x Cluster-like where classes have shared units, themes, as well as multidisciplinary activities and projects
- x Not a co-taught model, each class feels like a regular class, but content is connected and applied throughout classes and come together for major projects
- x Currently: participating in 9IP does not require continuation in 10IP; 9IP is NOT a prerequisite to sign up for 10IP



# Values Added from the Program

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- x Responsibility of teaching interdisciplinary skills are shared across the four classes (collaboration in 9IP and presentation & communication in 10IP)
- x Making connections between content areas for deeper understanding, longer retention, and transferability of knowledge and skills
- x Hands on activities and projects connected to real-world situations in authentic interdisciplinary applications.



# Values Added from the Program

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- x Sense of belonging and increased success for students on IEPs, students who need additional supports, and students of color
- x Teachers collaborate to provide student workload management and a focused, team approach to student support
- x Small community within the school where students feel engagement and connections with their peers



# 9IP - 9th Grade Interdisciplinary Program



## Units

- ✘ Observations and Patterns
- ✘ Systems
- ✘ Power and Influence
- ✘ Disease and Equity
- ✘ Revolutions

## Highlighted Projects

All disciplines:  
Designing a sustainable farm at NHS!

**History** and **Biology**:  
Equity and historical  
pandemics

**English** and **History** :  
combined end of the  
year research paper

**History** and **Math**:  
Design a Castle  
Challenge with  
quadratic functions

**Math** and **Biology**:  
Using mathematical  
modeling to analyze  
data

# 10IP - 10th Grade Interdisciplinary Program



## Units

- ✘ Making an Argument
- ✘ Change
- ✘ Force
- ✘ Inquiry and Investigation
- ✘ Insights and Analysis
- ✘ Fear and Hope

## Highlighted Projects

All disciplines:

Digital Portfolio connecting the courses  
Designing and Build a Memorial  
Weapons Project - National Safety Measures

**History** and **Math**:

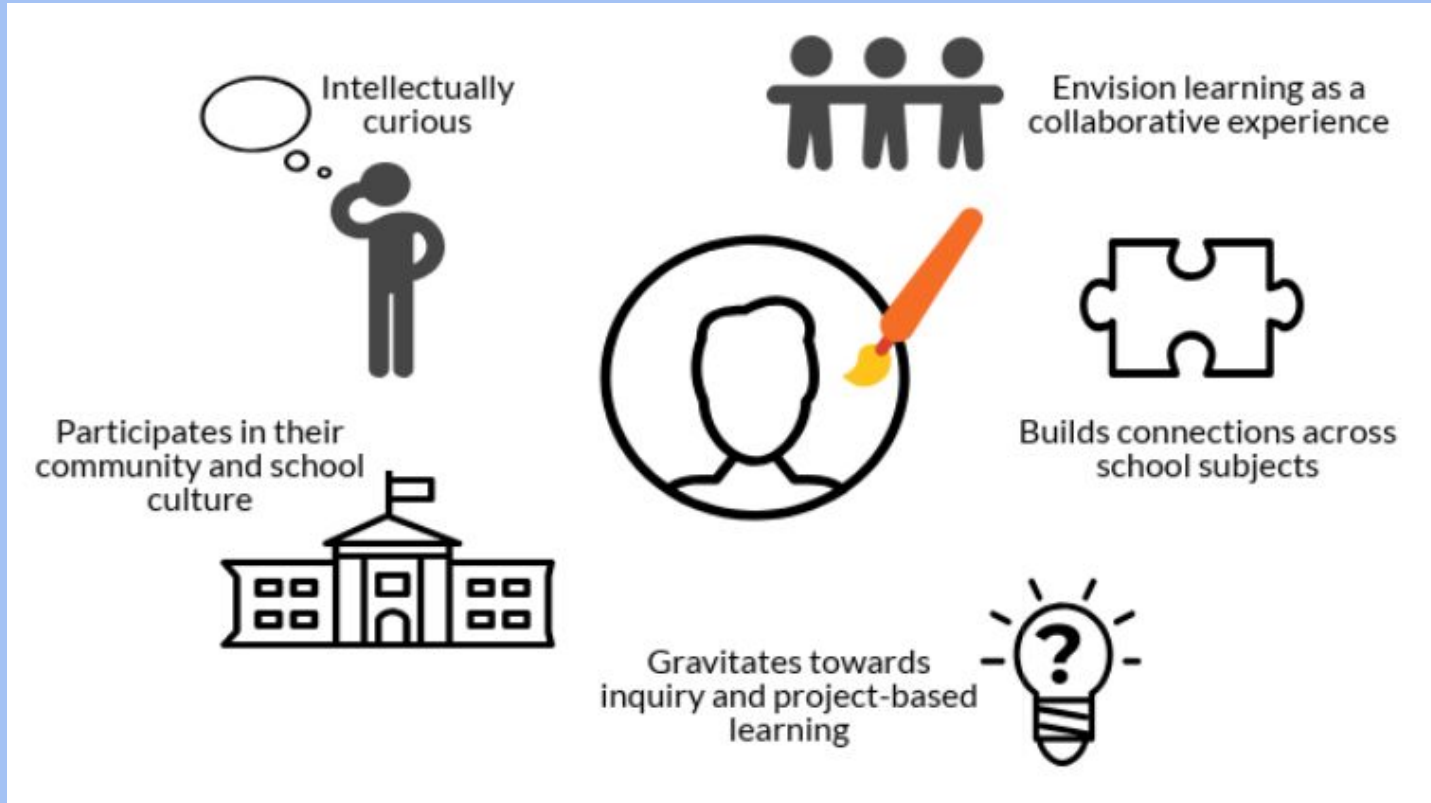
Urban Planning  
Gerrymandering

**Math** and **Physics**:

Curling  
The Solar System

**English** and **History**:  
Rights and Rebellion  
Nationalism  
Propaganda

# Portrait of IP Students



# Student Voices

- ✘ **Current 9IP Students:**
  - Amina Kamada
  - Brooke DeMaio
- ✘ **Current 10IP who took 9IP**
  - Sam Treacy and Justin Maira
  - Adonai Baptista (backup)
- ✘ **Current 10IP who did not take 9IP**
  - Jason-Christian Andrade
- ✘ **Explain an experience you have had**
- ✘ **How has the program helped connect your learning?**
- ✘ **What values do you feel you are gaining from the program?**



# Portrait of a Graduate Connections

## CREATIVE THINKERS & PROBLEM SOLVERS

Raise questions driven by curiosity; analyze relevant information; express creativity; design & innovate solutions

## COMMUNICATORS AND COLLABORATORS

Listen effectively; articulate ideas using a variety of communication strategies & skills; interact with others respectfully & productively; contribute to teamwork

## SOCIALLY & CULTURALLY RESPONSIVE CONTRIBUTORS

Understand & respect diversity; act with empathy & courage to ensure equity, access, and an anti-racist culture; address local & global issues through civic & community engagement

## RESPONSIBLE AND RESILIENT INDIVIDUALS

Take responsibility for actions; make healthy choices to achieve physical & emotional wellbeing; self advocate; persist to overcome personal challenges; adapt to change

## EMPOWERED LEARNERS

Discover and integrate content from multiple disciplines; engage in self-directed learning; use technology to support learning & navigate a digital world





# Portrait of a Graduate Connections

## Portrait of a Needham Graduate

### Creative Thinkers and Problem Solvers

Raise questions driven by curiosity;

Apply creativity;

### Communicators and Collaborators

Listen effectively; Analyze, evaluate, compare, and contrast; Formulate strategies and skills;

### Socially and Culturally Responsive Contributors

Understand and respect diversity; Act with empathy and courage to ensure equity, access, and an anti-racist culture; Address local & global issues through civic and community engagement

### Responsible and Resilient Individuals

Take responsibility for actions; Make healthy choices to achieve physical & emotional well-being; Self-advocate; Persist to overcome personal challenges; Adapt to change

### Empowered Learners

Engage in self-directed learning;



Students, draw anywhere on this slide!

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Do not remove this bar



# Challenges and Future of IP

- ✘ Common Planning Time
  - Learning other disciplines
  - Designing connected lessons
  - Designing, Organizing, Implementing, and Assessing Projects
  - Discussing Students
- ✘ Expand 9IP & 10IP to be multi-level
- ✘ 11th grade - US History/Literature
- ✘ Wide range of interdisciplinary courses slowly added in the Program of Studies - expanding access to all grades and abilities





## Needham School Committee

January 24, 2023

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Agenda Item:     **Discussion**

### **2023-2024 Middle School and High School Programs of Studies**

Background Information:

- Each year, the School Committee reviews, discusses, and approves the middle school and high school course of studies.
- Mr. Sicotte, Ms. Coubrough-Argentieri, Ms. Bibbo and Ms. Downey will review proposed changes for 2023-2024.
- The middle school proposed changes are highlighted for your review; the high school changes are indicated in red.
- The School Committee will vote on the proposed programs of studies at its next meeting.

Person(s) Available for Presentation:

Tamatha Bibbo, Pollard Middle School Principal  
Alison Coubrough-Argentieri, Assistant Principal, Needham High School  
Jessica Downey, High Rock School Principal  
Aaron Sicotte, Principal of Needham High School

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# Needham Public Schools ~ Middle Level *High Rock & Pollard*

## MEMORANDUM

TO: Daniel Gutekanst

FROM: Tamatha Bibbo & Jessica Downey

DATE: January 18, 2023

RE: Program of Studies 2023-2024

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Please accept this middle school Program of Studies for your review and approval.

There are limited areas of change for this year. You will note highlights in the following sections:

**Vision, Values, and Statement of Purpose (pages 3 & 4).**

This section was revised to reflect district movement and strategic plan toward the Portrait of a Needham Graduate.

**Literacy Department Overview & Literacy Supports (pages 9 & 29)**

There have been different supports for students in the area of literacy and reading that we provide at the middle level. While the courses had previously been identified under the ELA department, it was necessary to delineate this curriculum under the literacy program which has leadership K-8.

**Special Education Services (pages 14 - 16)**

In order to provide better understanding and transparency of the services provided to students who are identified under an individualized education plan (IEP) it is necessary to include an outline of programming at High Rock and Pollard Middle School.

**Spanish 8A (page 41)**

With the addition of Spanish 7A during the 2022-23 school year, students who completed this course will now progress to Spanish 8A.

Please note that the Table of Contents may not yet be accurate, as we will revise that once the Program of Studies receives final approval.

*Jessica R. Downey*  
Principal, High Rock School  
School  
Grade 6

*Tamatha Bibbo*  
Principal, Pollard Middle  
Grades 7 & 8

NEEDHAM PUBLIC SCHOOLS  
Needham, Massachusetts

MIDDLE SCHOOL PROGRAM OF STUDIES

GRADES 6 – 8

2023 - 2024

Dr. Dan Gutekanst  
Superintendent of Schools

Dr. Carmen Williams  
Assistant Superintendent of Instruction and Innovation

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## **NEEDHAM PUBLIC SCHOOLS PORTRAIT OF A NEEDHAM GRADUATE**



### **DISTRICT VISION:**

Preparing ALL Needham Public Schools students to be:

- Creative Thinkers and Problem Solvers;
- Communicators and Collaborators;
- Socially and Culturally Responsive Contributors;
- Responsible and Resilient Individuals;
- Empowered Learners

### **DISTRICT CORE VALUES:**

- Scholarship
- Community
- Citizenship
- Personal Growth

### **HIGH ROCK SCHOOL VALUES:**

Engaging All High Rock Students in:

- Learning
- Self-Discovery
- Caring for Others

### **POLLARD MIDDLE SCHOOL VALUES**

Supporting ALL Pollard students to be:

- Curious, confident, and independent learners;
- Act with compassion, integrity, and inclusivity;
- Strive for personal growth

## NEEDHAM MIDDLE SCHOOLS STATEMENT OF PURPOSE

### ***We Know:***

Students enter Middle School at a critical phase of their development. They experience rapid physiological and emotional changes, an emerging sense of self, and an increased need for self-assertion. Cognitively, middle school students move from concrete toward abstract thinking. Middle school students strive for self-acceptance and a sense of belonging which shapes their behavior and perceptions. Healthy connections with adults and peers are crucial. Adult recognition reinforces students' sense of worth and their ability to balance extreme and competing developmental needs.

### ***We Believe:***

- All students can learn, and it happens at varying rates through multiple learning styles.
- Active learning requires taking risks, and mistakes are valuable for learning.
- Learning through a broad-based curriculum and exposure to different perspectives is integral to educating the whole child.
- Learners should feel safe, cared for, and valued.
- Learning requires a partnership between school, home, and the community.

### ***We Work To Provide:***

- A student-centered curriculum that is experiential, interdisciplinary, and exploratory.
- A staff that plays multiple roles in fostering student growth as they share knowledge, serve as role models, and respond to each individual's needs.
- A middle school environment that stresses civic and global awareness and each student's role as a member of a family, a community, and society at large.

### ***We Strive To Develop:***

- Creative Thinkers and Problem Solvers
- Communicators and Collaborators
- Socially and Culturally Responsive Contributors
- Responsible and Resilient Individuals
- Empowered Learners



## **PROGRAM OVERVIEW**

The middle school program has been developed with the understanding that the young adolescent is at a critical phase in their cognitive personal and social development. Given that students will face a rapidly changing world there is a core belief that students require a rigorous program that has a broad-based curriculum, which is experiential, interdisciplinary, and exploratory in nature. As a result, the program at the middle school level in Needham is comprehensive and it is expected that students, with few exceptions, will take all courses represented at each grade level outlined below.

## **CLUSTER MODEL**

At High Rock and Pollard we value the National Middle School Association's ideal of developing and sustaining a middle level program that embodies interdisciplinary teaming, advisory, varied instruction, exploratory programs, and transitional activities. The current design of interdisciplinary teams in our middle level program is referred to as our "cluster model."

The environment of a cluster assists in supporting the transition of students from an elementary school model to their high school experience. Clusters create smaller schools or "family units" within our larger school community and support students in their cognitive, social and emotional development. Having this team of teachers working with the same group of students provides flexibility in order to schedule a variety of curriculum needs and foster programs of interdisciplinary study.

Clusters are developed in order to have heterogeneous classes that maximize the educational possibilities for all children. Our primary goal is to create balanced classes in terms of gender, academic strengths, social maturity, special needs, and supportive peer groups that are likely to promote healthy and productive learning environments.

Students in each grade will receive instruction in the four (4) cluster subjects every day, which includes English Language Arts (ELA), mathematics, science, and social studies. In addition to the study in these cluster subjects, students will participate in Enrichment courses. Students participate in two Enrichment courses per day that occur on a rotating basis. These courses are scheduled as a half-trimester, trimester, or year-long courses.

## COURSE SCHEDULING

A typical daily schedule for students is as follows:

Advisory
English
Math
Science
Social Studies
Enrichment/Essentials 1
Enrichment/Essentials 2

Students participate in multiple essential/elective courses per day that occur on a rotating basis. These courses are scheduled as half-trimester, trimester or year-long courses. Outlined are courses assigned at each grade level.

<b>Grade 6 Enrichments</b>	<b>Grade 7 Essentials</b>	<b>Grade 8 Essentials</b>
Physical Education	Physical Education	Physical Education
Health	Health	Health
World Language - Spanish	World Language - Spanish, French, Mandarin	World Language - Spanish, French, Mandarin
Visual Art	Visual Art 7	Visual Art 8
Digital Technology	Digital Technology	Engineering Design
Literacy for Learning	Engineering Design	Data Science I
	Data Science I	Data Science II
Performing Arts Option*	Performing Arts Option* <b>or</b> Arts Rotation Grade 7**	Performing Arts Option* <b>or</b> Arts Rotation Grade 8**

### \*Performing Arts Options

<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
Beginning Band Concert Band Strings Ensemble Chorus/General Music	Concert Band Strings Ensemble Cambiata Chorus Treble Chorus	Concert Band Strings Ensemble Cambiata Chorus Treble Chorus

### \*\*Arts Rotations (For students not choosing a Performing Arts Option in Grade 7 or 8)

<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
	Ceramics/Sculpture 7 Music 7 Theater Arts 7	Ceramics/Sculpture 8 2D Design 8 Global Arts 8

## **DEPARTMENT OVERVIEW**

### **ENGLISH LANGUAGE ARTS**

Through a wide variety of classroom learning experiences which are largely literature based, our goal is to teach children how to fully comprehend and respond to what they read and teach them how to use the English language most effectively in their writing and speaking. This program has three components: language arts, composition, and literature.

The English curriculum draws on the four main literary genres: fiction, nonfiction, poetry, and drama. Selected age-appropriate readings within these genres are meant to expose students to a vibrant cross-section of viewpoints, cultures, and communities from around the world, past and present, and to foster an appreciation of this diversity.

Along with gaining skills in comprehending text on a factual level, students also learn how to think critically while they read and are given the tools to respond analytically and personally. These responses include small group and whole-class discussions, written responses, and projects that tap students' strengths in visual and performing arts. Students are also encouraged to read independently outside of what is required in school by teachers who model for children a love of reading as a lifelong habit of mind.

In all three grades, emphasis is placed on using the five-step writing process (prewriting or brainstorming, drafting, revising, editing, and publishing) to meet success in conveying ideas on paper. Students will increasingly learn how to adapt the writing process to fit the demands of individual assignments and shape their writing to satisfy specific purposes and audiences.

Generally, writing assignments ask students to:

- provide information or explain what something is about (expository);
- tell a story (narrative);
- describe a place or person (descriptive);
- persuade others to understand and accept your point of view (persuasive);
- express thoughts and feelings and create fictional worlds (expressive).

In all the writing they do, students are encouraged to develop their own individual voices and styles.

### **FINE AND PERFORMING ARTS**

As an academic subject, Needham Public Schools students engage in a rigorous standards based arts education in both the visual and performing arts. Instruction is rooted in the creative process, where students are actively engaged in performing and producing. All students will

become skilled in and develop an understanding of the four components of the creative process as outlined by the National and MA Standards for the Arts; 1. Creating, 2. Performing, Presenting, and Producing, 3. Responding, and 4. Connecting.

Instruction in the Fine and Performing Arts are inherently in alignment with the Vision of Portrait of a Needham Graduate. They encourage and teach students how to be “creative thinkers and problem solvers” and “communicators and collaborators”. The arts also are an avenue for social change and awareness, directly advancing the goal to create students who are “socially and culturally responsive contributors”. Instruction Arts further develops a child’s ability to communicate, think creatively, problem solve, and collaborate.

## **Visual Arts**

The Visual Arts are part of our nation’s Academic Core for all students. In our Visual Arts courses, students explore a variety of mediums and methods in both 2D and 3D. Our hands-on visual arts program captures the imagination, energy, and creativity of the students, while building a variety of skills. We have four distinct goals:

- To build upon and add a layer of complexity to student’s knowledge of art elements, principles, and techniques.
- To develop student’s critical and creative thinking skills through the process of making art (creating the idea, problem-solving, analyzing, evaluating, etc.).
- To develop intra and interpersonal skills through both independent and cooperative learning (including the ability to challenge themselves and explore new possibilities).
- To connect our visual arts program to the arts in life outside the classroom using art and cultural history, current events, etc.

## **Interdisciplinary Visual Arts Program**

Students at the High Rock School receive visual arts instruction throughout the year through a Visual Arts Interdisciplinary Program. The visual arts are integrated into and through the other academic subject areas. The Visual Arts Teacher co-teaches specific units and lessons in science, social studies and ELA, embedding visual art skills and concepts into other academic areas. This program greatly enriches all involved curricula areas and brings real-world elements into the schools, creating a higher level of personal connection and insight.

## **Performing Arts**

Music and theater are part of the performing arts, which are part of our Nation’s Academic Core for all students. The Theater classes offer students an opportunity for individual and group expression through dramatic presentations. The music program offers the middle school student opportunities in three distinct areas: music performance, music theory/skills, and musical self-expression. In addition to the curricular ensembles, students also have the opportunity to participate in several select co-curricular performing groups, which meet outside of the school day. Participation in these select ensembles are by audition and are fee based.

### **Select Performing Groups - After School Fee-Based**

These performing groups are open to sixth, seventh, and eighth grade students by audition. All ensembles rehearse in the afternoons, outside of the regular school day. Participating students must be members in good standing in the corresponding school ensembles or receive permission from the Fine and Performing Arts Director. There is an ensemble participation fee for each of the performing ensembles if admitted. Any family with financial concerns should contact the Fine and Performing Arts Director.

### **After School Theatrical Productions**

There are two Middle School Theatrical Productions held each year; a Musical in the Winter and a Play in the Spring. These productions are open to sixth, seventh, and eighth grade students. The cast is selected by audition. There are opportunities for interested students to participate in the many facets of a theatrical production including set building, costumes, and the technical theater crew.

## **HEALTH SERVICES**

The Nursing Department bridges healthcare and education and provides evidence-based, episodic care to all students. School nurses build collaborative partnerships with school staff, families, and community partners to ensure that the delivery of school health services is culturally responsive, equitable, and responsive to individual student needs. School Nurses are an integral part of each school's team and help students to optimize their health so that they can fully participate in educational programming and achieve academic success. Services include: illness and injury assessment and treatment, assessment of physical and mental health conditions, health record compliance, illness surveillance, implementation of State mandated screenings and referrals, anticipatory guidance, care coordination, development of individualized healthcare/medical 504 plans and promotion of disease prevention. During the COVID-19 pandemic, school nurses collaborate with community partners and the Public Health Department to address contact tracing, surveillance of COVID-19 cases, and case management.

## **LITERACY**

Literacy skills continue to be critical for success in secondary school as students are expected to tackle a wide-range of complex texts across multiple disciplines. Students must continue to hone

the skills and strategies required to be expert readers and writers in each subject area. The middle school literacy curriculum supports empowered learners by increasing student metacognition about their own reading preferences, strengths, and areas for growth. All students strengthen these skills in 6th Grade Literacy for Learning; students who need additional support may be recommended for additional offerings.

## **MATHEMATICS**

The Middle School Mathematics Department aspires to equip students with the skills necessary to:

- value mathematics and recognize its importance in real-life.
- demonstrate confidence in their mathematical abilities.
- develop into enthusiastic mathematical problem solvers.
- communicate mathematically both verbally and in writing.
- reason mathematically.

The overarching goal of the Middle School Mathematics program is to provide a sequential transition between the basic arithmetic, geometric, statistical, and problem solving skills studied in the elementary grades to the advanced mathematical skills of algebra, geometry, analysis, calculus, and statistics taught at the high school. The study of pre-algebra and algebra at the middle level prepares students for a successful transition to high school mathematics and prepares students for a continued study of mathematics and fields that require the use of mathematics.

Our mixed ability groupings in the middle grades provide high expectations for all, with support for those who need it. It is important to build a strong foundation in mathematics in middle school, where we emphasize conceptual understanding, procedural fluency, and application of the mathematics students have learned. Our curriculum enables each student to develop deep mathematical understanding and opportunities to competently apply math concepts and skills in a variety of school, home, and outside settings. Throughout the middle school experience, students will begin developing proficiency in precise mathematical communication, honing skills in both verbal and written mathematical presentation. Students will be challenged by sophisticated mathematical ideas as they move through our program and will develop perseverance, and the ability to reason, prove, and justify.

An important part of student mathematical work in the middle grades is the Massachusetts Standards of Mathematical Practice. These eight practices frame how teachers and students engage with school mathematics:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.

## 8. Look for and express regularity in repeated reasoning.

Whenever possible, the middle school teachers attempt to integrate the mathematics curriculum with other disciplines. This integration demonstrates to the students that all subjects are connected and not separate entities. In these units, students take knowledge learned in one subject and apply it to situations in other classes. The skills of analysis, synthesis, and generalization are the expected outcomes.

**Calculators are an essential part of the middle school mathematics program.** Students will use calculators to study certain mathematical topics where tedious computation detracts from the learning of concepts and development of problem solving strategies. Calculators will not be used for all units. Mathematical competency should not be dependent upon the use of a calculator.

## **MEDIA AND DIGITAL LEARNING**

Media instruction and information literacy skills, which emphasize research, are integrated into project based learning experiences that occur in all content areas. The library media teacher collaborates with all teachers to integrate these skills into curriculum topics being studied. Students work in the Library/Media Center to gather, organize, evaluate, and use information from a broad range of print and electronic sources.

The library media teacher also collaborates with the language arts teachers to explore varied genres of literature with students, including fiction, non-fiction, poetry, and biography. The library media teacher supports the independent reading programs of the language arts teachers by providing tools and strategies to students to assist them in the selection of independent reading books.

Digital technology instruction is part of a K-12 sequence of skill development. Through direct and integrated instruction, students expand their knowledge and use of various technology tools. There is a continued focus on 21<sup>st</sup> century skills such as collaboration, communication, creativity, critical thinking, and independent problem solving. In grades 6 and 7, students take direct technology instruction through a required one-trimester course. In addition, all teachers, with the support of Technology Integration Specialists, engage students in the use of innovative applications and tools while promoting digital literacy and citizenship.

## **SCIENCE**

It is increasingly important for all students to develop a firm understanding of scientific methods, content and skills. We aim to provide students with the content and skill set for viewing their world and communicating solutions as they make informed decisions about their environment, health, use and production of resources, and development of systems and products that will best serve the world's changing societies. Through a variety of lab investigations and experiments, case studies, inquiry opportunities, class discussions, and presentations, students will better understand the integrated nature of STEM (science, technology, engineering and math) fields.

Earth and Space, Life, and Physical Sciences, as well as Technology and Engineering principles, are continually integrated throughout sixth, seventh, and eighth grades. An emphasis is placed on relating the various principles, practices and concepts to real life and multiregional experiences. Development of effective communication (reading, writing, speaking and listening), problem solving, laboratory techniques, and study skills are important objectives of the science program. The integrated, spiraled approach of the curriculum ensures that students develop a strong science foundation, and the regularly applied Science and Engineering Practices ensure that students develop and apply the skills for approaching new challenges and decisions with a scientific mindset and framework.

Thus, in accordance with the State standards, students in *each* grade have ample opportunity to:

- Ask questions and define problems
- Develop and use models
- Plan and carry out investigations
- Analyze and interpret data
- Use mathematical and computational thinking
- Construct explanations and define solutions
- Engage in argument from evidence
- Obtain, evaluate and communicate information.

## **SOCIAL STUDIES**

Now, more than ever, social studies is a key component of a child's education. In order to understand events in the world and to participate in a democratic society, children need to build their knowledge of public policy and the complex interactions of individuals, governments, and nations.

We aspire to equip children with a knowledge of history so that they can begin to understand the multiple reasons why events unfold as they do and that the future is a result of the past. Knowledge of governments, past and present, helps students understand how people organize themselves in different ways. Experience with the viewpoints of diverse cultures and individuals challenge students and teachers alike to examine different opinions and approaches to living. Close attention is paid to essential skills such as writing and reading in history and the social sciences, using geography to understand history and how to use these skills to conduct research. We also dedicate ourselves to providing important experiences in areas such as teamwork and



public speaking as well as providing opportunities for students to discuss and analyze current events.

## **WELLNESS**

Health, Physical Education, and Experiential Education make up the middle school portion of our K through 12 comprehensive wellness program. Although each course is taught separately, they each incorporate a multidimensional approach to understanding human health and well-being. In a unique way, each course contributes to each student's ongoing development of skills, knowledge, and attitudes needed to participate in an active, healthy lifestyle. This comprehensive wellness curriculum emphasizes each student's responsibility for his or her own health and well-being based on a six-dimensional wellness model (social, emotional, physical, intellectual, spiritual, and occupational/leisure) with emphasis on personal growth. The middle school wellness program builds upon the knowledge, skills, and behaviors learned and practiced in grades K through 5, and is valuable in preparing middle school students for their high school experience.

## **WORLD LANGUAGES**

World language study in the middle schools focuses on developing students' linguistic and cultural proficiency in a modern language. Curriculum and instruction supports the development of novice range learners, consistent with the national standards for foreign language learning (ACTFL Proficiency Guidelines) and the 2021 Massachusetts Pre-K to 12 World Languages Curriculum Framework.

Students at each grade level will develop the four basic language skills of speaking, listening, reading, and writing. Teachers provide extensive comprehensible input in the target language, use authentic materials, integrate technology, create opportunities for purposeful play, design tasks with interactive exchanges, and use short stories to practice writing and speaking as well as reading comprehension. Teachers of world languages strive to nurture students' love of language learning, positive self-efficacy, and appreciation of diverse cultures.

At Needham High School, students are required to study at least two years of the same world language, though at three or four years is strongly recommended. We currently offer Spanish, French, Latin and Mandarin at NHS.

### **World Language in Grade 6 (full year)**

Students entering High Rock School will continue their study of Spanish through 6th grade. The 6th grade experience is designed to reinforce essential knowledge and skills introduced in the elementary Spanish program and further expand students' communicative capacity and cultural

competence. Thematic units of study include: question words and expressions, intro to reading a short novel in Spanish, the school day, numbers, greetings and introductions, and an intro to South America (geography and various countries' practices and products).

### **World Language in Grade 7 (full year)**

Students entering Pollard in 7th grade will have the opportunity to:

- continue their study of Spanish;
- begin Spanish (select Spanish 7A);
- begin French; or
- d) begin Mandarin.

**The language selected at the start of 7th grade is a two year commitment.** It is designed to serve as the foundation for the 2 years of required language study at Needham High School.

### **World Language in Grade 8 (full year)**

Students entering eighth grade will continue to study the same language studied in seventh grade.

**The Pollard world language experience is a two year commitment.**

## **SPECIAL EDUCATION SERVICES**

The Needham Public Schools provide a wide range of specialized instruction that represents a continuum of service delivery options. In keeping with the federal mandate of Least Restrictive Environment (LRE), Teams will always consider providing specialized instruction in the general education classroom first. All curricula taught at the middle school level follows the standards specified in the Massachusetts Curriculum Frameworks while at the same time provides individual students with the support, modifications and accommodations students require in order to make effective progress. IEP services are individualized to meet a student's needs and are determined by a student's IEP Team.

### **SKILLS CENTERS**

The Skills Centers provide academic support for students on IEPs who are included in general education classes for the four core academic subjects. The goals of the Skill Centers are to address the learning goals of the students' IEPs by teaching evidenced based data driven strategies through academic support, teaching students how to learn and how to use their strengths to compensate individual areas) of difficulty, helping students develop self awareness/advocacy, and supporting students to gain independence in managing their academic responsibilities.

The Skills Center is designed for students with mild to moderate learning, communication, health or other disabilities. Students who attend the Skills Centers require specialized instruction to allow them to access the general curriculum.

### ***BRIDGES***

The Bridges Program provides a structured environment with clear and consistent routines. Academics are tailored to student needs. Students often participate in a combination of General Education (SS/Sci) and Pull-Out classes (ELA/Math). The student to staff ratios are low to ensure educational success. The program provides social, academic, functional academic (i.e: money & time skills), pre-vocational, and recreational activities (i.e going into the community to make small purchases). These opportunities enhance students' skills and allow increased success in all life skills areas. Specially designed behavioral programs are implemented when necessary.

The Bridges program serves students with disabilities that include, but are not limited to expressive and receptive language processing issues, communication impairments, cognitive impairments, autism spectrum disorder and attentional difficulties. These disabilities significantly impact the student's overall functioning. The Bridges program is supported by a special education teacher and teaching assistant, as well as related service providers (speech, OT, counseling) as outlined in a student's IEP.

### ***INTERMEDIATE LEARNING CENTER (ILC) (Pollard)***

The Intermediate Learning Center (ILC) provides specially designed instruction for students with significant learning difficulties in a substantially separate setting, with a flexible inclusion model for students to learn alongside grade level peers when appropriate, students routinely attend advisory, lunch, and electives. Students receive 1:1 and small group intensive instruction in the sub-separate setting in the areas of cognitive skills, social skills, speech and language, occupational therapy, motor skills, and behavioral intervention. The ILC provides students with opportunities to practice life skills to increase independence in daily life, including purchasing routines, vocational roles, community safety, and hygiene.

The program is individualized to each student's specific learning and behavioral needs, instruction includes prompt hierarchies and discrete trial training. Students also participate in reverse inclusion and opportunities to participate in leisure activities with grade level peers. The ILC serves students who require intensive instruction (between 1:1 and 1:3 ratio) with significant modifications of the general education curriculum in order to make effective progress. Students served may be diagnosed with autism, severe communication disorder or delay, physical disability, neurological impairment and/or global developmental delay. This program is supported by a special educator, teaching assistants, a Board Certified Behavior Analyst and related service providers such as speech, occupational therapy, physical therapy, as identified by a students' IEP team and outlined in the IEP.

### ***INSIGHT***

Insight is a program designed for students who require support in the area of social/language pragmatic and executive functioning skills. A special education liaison and/or teacher assistants support the IEP needs of students in classes or through a consultative format. A specially designed skills center provides support for developing organizational strategies, re-teaching, breaking assignments down into manageable parts, clarification of directions, breaking down and simplifying language. The Speech and Language Pathologist provides individual and group lessons and consults to the program. A Board Certified Behavior Analyst (BCBA) provides consultation and support to students, teachers, and families.

Insight is designed for students who have diagnoses of Autism Spectrum Disorders or Nonverbal Learning Disabilities (NVLD). These students have a range of cognitive abilities alongside social pragmatic, social emotional, and executive function skills that are oftentimes far below grade level expectations.

### ***LANGUAGE BASED PROGRAM***

The Language Based Program provides a highly structured environment with language-based instruction, consistent daily routines and positive reinforcement in a small, structured classroom for all or some of the academic subjects. The LB provides both substantially separate instruction in any of the four content areas or provides language based support for the curriculum material in inclusion general education subject classes, as designated in the students' IEPs. There is a low student to staff ratio with staff working collaboratively in creating academic and social activities for whole classroom groups, as well as for individual students. The Language Based program serves students with learning disabilities that significantly impact their ability to benefit from general education, due to difficulty in one or more of the following areas: receptive and/or expressive language, visual processing, reading, math, writing or attention skills. The Language Based program is staffed by special education teachers and teaching assistants. Students also receive related services as outlined in their IEPs.

### ***CONNECTIONS***

The Connections Program is a therapeutic program for students who have significant difficulty in meeting the day-to-day demands of general education classrooms without significant social, emotional and behavioral support. The program has the flexibility, due to a high staff to student ratio (special education teachers, adjustment counselor, and multiple teaching assistants) and multiple classroom locations, to offer students self contained, inclusion or a combination of both settings as needed. Staff work collaboratively to create academic, therapeutic, social and recreational activities for classroom groups as well as individual students. Connections serves students who exhibit social and emotional difficulties that sometimes result in disruptive classroom behaviors. These skill deficits are due to diagnosed neurological, emotional or behavioral disabilities. These students have average cognitive abilities, but may have learning

disabilities, organizational and attention issues that greatly impact their performance in academic areas.

### **STRUCTURED LEARNING SUPPORT (SLS) (HIGH ROCK)**

At High Rock School, students have a Structured Learning Support class one period each day. This class is designed to help students slow down, provide guided practice, and deliver support for the diverse and sometimes competing needs of our adolescents. During this class there is a mixture of independent reading, math practice, self organization and planning, and teacher-led extra support.

Students in grade 6 are required to complete 180 minutes a week in their independent reading book and 60 minutes a week in their online math practice program. While there will be some time provided during the SLS class for independent reading and math practice, students will need to spend additional time outside of the school day to complete these weekly time requirements.

### **COMMUNITY SERVICE LEARNING PROGRAM (POLLARD)**

Students at Pollard Middle School participate in a Community Service Learning (CSL) Program. The program is implemented over the course of the 7th and 8th grade years and requires students to share their findings with their peers, faculty, and parents/guardians. The goal is to reinforce for students the importance of being active, responsible citizens who commit time and energy to “help make our world a better place.”

Research indicates that if students are involved in their learning in a hands-on way, they are likely to get more out of these learning experiences and feel that their efforts can and do make a difference. We hope that through this program, students will be inspired to become involved with human and animal rights issues in our community and the larger society, both now and in the future.

Students are exposed to service work on a local, national or international level. They consider areas of personal interest in the realm of humanitarian and social justice work, and select a specific social issue and an organization or project in which to base their community service learning. Students select community organizations in and outside of Needham as sites for their service projects. They have a wide range of choices and we encourage parents/guardians to participate in the selection process so that both the student and the parent/guardian can be informed and comfortable with the project and site selected.

The project consists of the following steps:

- Brainstorm and discuss social/societal issues of concern.
- Consider personal and academic interests related to service learning.
- Research the social issue selected for service work.
- Select an organization where a minimum of 10 hours of service is performed.
- Develop an action plan for service learning.
- Reflect on the service done, contributions made, and the learning and personal growth that occurs through the service experience.
- Share their findings with peers, staff, and parents/guardians.

Expectations of Student Involvement:

We expect that students will perform a minimum of ten (10) hours of service over their two years at Pollard. Students will begin their community service learning work midway through 7th grade and complete their work in the spring of 8th grade. Full participation in our end-of-year social activities is contingent on the participation in this CSL Program.

## **COURSE DESCRIPTIONS**

### **ENGLISH LANGUAGE ARTS**

#### ***GRADE 6 ENGLISH LANGUAGE ARTS (full year)***

Students are immersed in the study of literature, composition, and language arts. The goal is to help students become careful readers and thoughtful, expressive writers and speakers.

At the beginning of the year, students review ‘active reading’ strategies and begin their independent reading logs. They review the rudiments of the short story while reading and analyzing classic and contemporary tales such as “The Necklace” by Guy de Maupassant “Charles” by Shirley Jackson and “All American Slurp” by Lensey Namioka. Over the course of the year, students read **novels** in whole-class and **book-club formats**, choosing from a curated list of novels that vary in style, from fantasy (like *Amari and the Night Brothers* by B.B. Alston) to realistic fiction (like *Half a World Away* by Cynthia Kadohata), to verse novels (like *Crossover* by Kwame Alexander). Additionally, students study a variety of short and long nonfiction texts, poems, and myths. Always the emphasis is on knowledge acquisition, interpretation of meaningful passages, and careful examination of theme or main idea. Students learn how to take notes, write analytical responses, back up interpretations with textual evidence, and identify effective craft techniques. Throughout the year, students also read numerous self-selected titles as part of the school’s Independent Reading Program.

In composition, students write in a wide range of genres that include fictional narratives, critical and persuasive essays, book reviews, reflections, journal entries, and various authentic texts such

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as letters or business memos. They begin by reviewing the steps in the writing process with examination of mentor texts and an emphasis on effective techniques, thoughtful revision of ideas and word choice, and careful proofreading/editing to ensure correct punctuation and capitalization. Students apply their knowledge of short story elements by constructing an original plot line and writing a well-developed story scene. They learn about expository structure and organization: how to write an effective introduction, how to support a thesis statement with facts and evidence, and how to conclude with a summarizing paragraph. As part of the poetry unit, students create an anthology that includes analytical interpretations, original poems, and reflections about their growth as a poet. Throughout this exploration of language and self-expression, the emphasis is on finding one's voice as a writer, developing ideas, and learning effective organizational strategies.

In conjunction with reading and writing activities, students acquire new vocabulary, practice important grammatical constructs, and learn how to speak, argue, and listen effectively.

### ***GRADE 7 ENGLISH LANGUAGE ARTS (full year)***

In grade 7 ELA, students study literature, composition, vocabulary, grammar, and public speaking. The goal is to help students become careful, inferential readers, critical thinkers, and thoughtful, expressive writers and speakers.

At the beginning of the year, students review ‘active reading’ strategies and effective note taking skills while reading and analyzing a variety of challenging short stories. Building on the work begun in grade 6, students study character development in relation to plot events (the ‘emotional journey’ of the main character), point of view, setting, and theme. Over the course of the year students read a variety of texts, including a young adult novel (The Outsiders, by S. E. Hinton), a complex novel (Roll of Thunder, Hear My Cry by Mildred Taylor), poetry, nonfiction articles and books, and a number of theme-based literature circle selections. The emphasis is on understanding the influence of history and culture on characters’ behavior and on authors’ decisions as well as appreciating the multiple themes of a complex young adult novel. In discussions and written responses, students learn to support claims and opinions with examples, reasons, and textual evidence. Students explore word choice, language, and writing, with special attention given to understanding figurative language. As students move from concrete understandings to more abstract generalizations, they are encouraged to think broadly and deeply about topical questions, the challenges of adulthood, and their own lives. They study several themes in depth, particularly *identity*, *the role of the individual in society*, and *culture as a determinant of point of view*. Throughout the year, students read numerous self-selected titles as part of the school’s Independent Reading Program.

Students in grade 7 continue to write and experiment with a variety of forms and genres. In addition to summaries and analytical responses, students learn to write short story scenes, poems, personal and persuasive essays, narratives, and informational pieces. Each student in grade 7 develops and presents a portfolio of original poems and interpretations of published poems. Building on the work begun in grade 6, students continue to learn about the elements of an essay, including a well-developed thesis statement, topic sentences, transition words, embedded



quotations, and a conclusion that extends the main idea. Increasingly, attention is paid to developing and supporting persuasive arguments, employing effective word choice, and revising and polishing final drafts.

In addition, each week students acquire new vocabulary (including Latin and Greek root words and combining forms); learn about parts of speech, sentence structure, and sentence boundaries; and practice speaking, arguing, and listening effectively. A culminating event is a declamation that is carefully practiced and delivered orally to the class.

### ***GRADE 8 ENGLISH LANGUAGE ARTS (full year)***

In grade 8 ELA students study literature, composition, vocabulary, grammar, and public speaking. The goal is to help students become careful, inferential readers, critical thinkers, and thoughtful, expressive writers and speakers.

Building upon previous work in grades 6 and 7, at the beginning of the year students review ‘active reading’ strategies, note taking techniques, and summarizing skills while reading a variety of challenging stories by Jackson, Poe, Connell, Bradbury, LeGuin, and a range of contemporary authors. The emphasis is on careful reading; identification of narrative techniques such as flashback, foreshadowing, and suspense; and understanding symbolism, mood, satire, irony, methods of characterization and theme. Students read, discuss, analyze, and write about short stories using examples and evidence from the text to support their interpretations. As a further assessment, students *apply* everything they have learned about short stories by choosing a story to either continue or re-imagine from another point of view.

As the year progresses, students move from shorter texts – both fiction and nonfiction – to a variety of longer texts, including complex adult novels, memoirs, plays, poetry, and nonfiction. Titles include *Fahrenheit 451* by Ray Bradbury, “*A Midsummer Night’s Dream*,”<sup>22</sup> by William Shakespeare, and *Friedrich* by Hans Peter Richter, among others. The emphasis is always on inferential thinking, identification of text structures particular to each form or genre, language and writing style, the creative choices an author makes, and a thorough evaluation of thematic content. Students learn to read deeply; that is, to reflect on themes and issues in relation to their own experiences, to generalize about larger issues that affect society as a whole, and to compare diverging points of view and the cultural and personal factors that influence an author’s – or a reader’s – perspective. Specific units of study focus on *heroic archetypes*, *moral courage*, *the role of the individual in an unjust society* and *freedom vs. independence*. With increasing sophistication, students learn to make claims about the texts they are reading and support those claims with reasons, examples and evidence rooted in the texts themselves. In the spring of grade 8, students engage in a six-week literature-based study of the Holocaust in which they examine historical roots of the Holocaust, issues of ethics and moral justice, and Holocaust-related contemporary issues such as the treatment of some cultural groups by other cultural groups. Throughout the year, students read, write about, and give oral presentations on numerous self-selected titles as part of the school’s Independent Reading Program.

Students in grade 8 increasingly take control of their own writing as they learn new forms, write longer essays and narratives, and become more sophisticated at revising and editing their pieces.



In addition to autobiographical and fictitious narratives and vignettes, students write a number of expository pieces including persuasive essays, literary essays, speeches, and analytical responses to their reading. Learning how to write a sophisticated, well-structured essay is a primary goal as students grow their ability to express themselves in organized structures and with powerful prose. Over the course of the year, students learn to plan and organize their ideas, use examples and evidence to argue effectively, and choose words and phrases precisely. Students are expected to use newly acquired vocabulary - including academic words and figurative language - in their writing and to demonstrate increasing control over the grammatical structures they have studied.

## **FINE AND PERFORMING ARTS**

### **6th GRADE:**

All students are enrolled in a Visual Arts and Performing Arts Course. Students may choose which Performing Ensemble they would like to participate in.

#### ***VISUAL ART 6 (trimester/ All students)***

This class focuses specifically on the skills outlined in the MA State Visual Arts Frameworks and bridges the elementary and middle school art programs. Skills learned in the elementary grade are reviewed and expanded upon as students demonstrate their understanding of Visual Art structures and functions. Students will complete units incorporating the elements and principles of art, techniques in drawing, color, design, and ceramics (including observation, abstraction, and expression), craftsmanship, and the creative process. As part of this course, students complete a digital portfolio of their work. This course lasts for one trimester.

### **PERFORMING ENSEMBLE: STUDENTS CHOOSE ONE OF THESE CLASSES:**

#### ***1. CHORUS AND GENERAL MUSIC 6 (full year)***

This course is part of the sixth grade curriculum for students to sing in a chorus and continue with general music. In this class, students will study and perform music representative of a variety of musical styles and cultures through which they learn to control their rapidly changing adolescent voice in a safe and supportive environment. Public performances are important culminating experiences for this class. In addition, chorus/general music students spend substantial class time engaged in composition, drumming, notation study, and listening analysis. Students develop and use creative and critical thinking skills and cooperative learning techniques as they study all the elements of music in addition to performance. This course focuses specifically on skills outlined in the MA State Music Frameworks. This is a yearlong course.

#### ***2. BEGINNING BAND 6 (full year)***

This course is open to and designed for sixth grade students WITHOUT any prior playing experience on a brass, woodwind, or percussion instrument. Students will learn the

fundamentals of their specific instruments, proper playing technique, and note reading. Students will participate in sixth grade concerts, a district-wide band performance, as well as other performance opportunities that arise. Band members are strongly encouraged to study their instrument privately, though it is not required. This course focuses specifically on skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. At the end of this course, students will be ready to join Concert Band 7. This is a yearlong course.

### 3. *CONCERT BAND 6 (full year)*

This course is open to sixth grade students with a minimum of one year playing experience on a brass, woodwind, or percussion instrument. Students continue to expand the fundamentals of musicianship and technical skill through the study of different styles of band literature. The concert band participates in sixth grade concerts, district-wide band performance, as well as other performance opportunities that arise. Band members are strongly encouraged to study their instrument privately, though it is not required. Band members may also audition for the Middle School Wind and Jazz Ensembles. This course focuses specifically on skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course.

### 4. *STRING ENSEMBLE 6 (full year)*

This course is open to sixth grade students who play violin, viola, cello, or string bass with a minimum of one year's playing experience or with permission of the instructor. String Ensemble 6 performs in all Middle School string concerts as well as the annual district-wide strings performance. Sixth grade string ensemble members may audition for the Town Orchestra. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course focuses specifically on skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course.

## **7th GRADE:**

### *VISUAL ART 7 (trimester/ All students)*

This class is a required class for all seventh graders regardless of Fine and Performing Arts focus area selected (Performing Ensemble or Essential Rotation). Art 7 reviews and continues to develop skills learned in Art 6 and expands upon their understanding of visual art structures and functions. Students will complete units incorporating the elements and principles of art,

techniques in drawing, color, and design (including observation, abstraction, and expression), craftsmanship, the creative process (brainstorming, problem-solving, analyzing, evaluating and presenting). This course lasts for one trimester.

## **In addition to Art 7, students must choose the Essentials Rotation Track or a Performing Ensemble Track.**

### **7th GRADE ESSENTIALS ROTATION TRACK**

Students enrolled in the Essentials Rotation Track participate in a trimester rotation of visual and performing arts courses as listed below.

#### ***CERAMICS/SCULPTURE 7 (trimester)***

This art class is part of the Fine and Performing Arts Grade 7 rotation. Students in this course will explore the 3D art process with a variety of materials, such as paper mache, clay, etc. Both functional and sculptural projects will be produced that demonstrate understanding of craftsmanship, while maintaining a workspace responsibly. This course focuses on 3D skills outlined in the MA State Visual Arts Frameworks. This course lasts for one trimester.

#### ***MUSIC 7 (half - trimester)***

In this class, students will study and perform music representative of a variety of musical styles and cultures through which they learn to control their rapidly changing adolescent voice in a safe and supportive environment. In addition, Music 7 students spend class time engaged in composition, drumming, notation study, and listening analysis. Students develop and use creative and critical thinking skills and cooperative learning techniques as they study all the elements of music in addition to performance. This course focuses specifically on skills outlined in the MA State Music Frameworks. Students will perform as part of this course, but will not be required to participate in a formal public performance. This is a half-trimester course that is scheduled in tandem with Theater Arts.

#### ***THEATER ARTS 7 (half - trimester)***

This is the performing arts class that is part of the Fine and Performing Arts Grade 7 Rotation. In this integrated performing arts class, students will expand upon and develop their theatrical skills by participating in a variety of roles used in professional and amateur productions. These roles include that of actor, director, and designer. Class activities may include rehearsal and performance of monologues and scenes, as well as script analysis and technical design. Students will perform as part of this course, but will not be required to participate in a formal public performance.-This is a half-trimester course that is scheduled in tandem with Music 7.

### **7th GRADE PERFORMING ENSEMBLES TRACK:**

Students receive one trimester of Art 7 and are enrolled in a yearlong performing ensemble (Chorus, Band, or Strings) of their choice.

### **PERFORMING ENSEMBLE: STUDENTS CHOOSE ONE OF THESE CLASSES:**

#### ***1. CAMBIATA CHORUS 7 (full year)***

This course is appropriate for all seventh graders whose singing voice corresponds to a voice in the tenor or bass range and/or is anticipated to change into one of these voice ranges. Students in this class are able to focus on developing and fine tuning their changing adolescent singing voice in a supportive and comfortable environment. Students experience a variety of musical styles designed to give them a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to the two major concerts each year, the chorus may also perform for functions in Needham and surrounding communities. Members of Cambiata Chorus 7 are encouraged to audition for the Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 7).

#### ***2. TREBLE CHORUS 7 (full year)***

This course is appropriate for all seventh graders whose singing voice corresponds to a voice in the soprano or alto range and is expected to sing in one of these voice ranges. Students experience a variety of musical styles designed to give chorus members a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to the two major concerts each year, the chorus may also perform for functions in Needham and surrounding communities. Members of Treble Chorus 7 are encouraged to audition for the Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 7).

#### ***3. CONCERT BAND 7 (full year)***

This course is open to seventh grade students who enter seventh grade able to play brass, woodwind, or percussion instruments at a beginning/intermediate level. A minimum of one-year experience on the instrument, or permission of the instructor, is needed to enroll. Students learn the fundamentals of musicianship and technical skill through the study of different styles of band literature. The concert band participates in a variety of school and district-wide bands performances, as well as other performance opportunities that arise. Band members may audition for the Middle School Wind and Jazz Ensembles. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 7).

#### **4. *STRING ENSEMBLE 7 (full year)***

This course is open to seventh grade students who play violin, viola, cello, or string bass with a minimum of two year's experience on their instrument, or with permission of the instructor. String Ensemble 7 performs in all Middle School String concerts as well as the annual district-wide strings performance. Seventh grade String Ensemble members may audition for the select Town Orchestra. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 7)

### **8th GRADE:**

#### ***THE VISUAL ART 8 (trimester/ All students)***

This class is the required art class for all eighth graders regardless of the Fine and Performing Arts focus area (Performing Ensemble or Essentials Rotation). Art 8 reviews and develops skills learned in the earlier grades and further expands students' understanding of visual art structures and functions. Students will complete units incorporating the elements and principles of art, techniques in drawing (including observation, abstraction, and expression), craftsmanship, and the creative process.

**In addition, students must choose the Essentials Rotation Track or a Performing Ensemble Track.**

#### **8th ESSENTIALS ROTATION TRACK**

Students enrolled in the Essential Rotation Track participate in a trimester rotation of visual and performing arts courses as listed below.

#### ***CERAMICS/SCULPTURE 8 (half-trimester)***

This art class is part of the Fine and Performing Arts Grade 8 rotation. Students in this course will continue the exploration of the 3D art processes and materials (paper mache, clay, etc) used in Ceramics/Sculpture 7. Emphasis will be on producing 3D artwork that shows understanding of craftsmanship while maintaining a workspace responsibly. This course focuses on 3D skills outlined in the MA State Visual Arts Frameworks. This course lasts for half of one trimester.

#### ***2D DESIGN 8 (half-trimester)***

This art class is part of the Fine and Performing Arts Grade 8 rotation. 2D Design 8 expands on the visual art skills developed during Art 7 with an emphasis on using color and design to develop expressive ***2D Design composition skills***. Students will also use color and craftsmanship to enhance the impact of their compositions. Some of the mediums used will be paint, pastels, colored pencils and markers. This course lasts for half of one trimester.

#### ***GLOBAL ARTS 8 (half-trimester)***

This art class is part of the Fine and Performing Arts Grade 8 rotation. Global Arts enable students to produce individual works in a variety of media. Students study how artists around the globe express their culture through art, and then interpret the culture's style and symbolism in their own works. In addition to reinforcing the skills of creating and producing expressive art works; this course specifically brings focus to the standards relating to artistic meaning, critical response, and connection to different cultures. This course lasts for half of one trimester.

***THEATER ARTS 8 (half-trimester)***

This is the performing arts class that is part of the Fine and Performing Arts Grade 8 Rotation. In this integrated performing arts class, students will expand upon and develop their theatrical skills by participating in a variety of roles used in professional and amateur productions. These roles include that of actor, director, and designer. Class activities may include rehearsal and performance of monologues and scenes, as well as script analysis and technical design. This is a half-trimester course. Students will perform as part of this course, but will not be required to participate in a formal public performance.

**8th GRADE PERFORMING ENSEMBLES TRACK:**

Students receive one trimester of Art 8 and are enrolled in a yearlong performing ensemble (Chorus, Band, or Strings) of their choice.

**PERFORMING ENSEMBLE: STUDENTS CHOOSE ONE OF THESE CLASSES:**

***1. CAMBIATA CHORUS 8 (full year)***

This is appropriate for all eighth graders whose singing voice corresponds to a voice in the tenor or bass range and/or is anticipated to change into one of these voice ranges. Students in this class continue to develop and fine-tune their changing adolescent singing voice in a supportive and comfortable environment. Students experience a variety of musical styles designed to give them a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to at least one major concert each year, Cambiata Chorus 8 also spends time exploring techniques and concepts used in musical theater. Members of Cambiata Chorus 8 are encouraged to audition for Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 8).

***2. TREBLE CHORUS 8 (full year)***

This course is appropriate for all eighth graders whose singing voice corresponds to a voice in the soprano or alto range and is expected to sing in one of these voice ranges. Students experience a variety of musical styles designed to give them a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to the two major concerts each year, the chorus may also perform for functions in Needham and surrounding communities. Members of Treble Chorus 8 are encouraged to audition for the Middle School Select Choir. This course continues

the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 8).

### **3. *CONCERT BAND 8 (full year)***

This course is open to eighth grade students who enter eighth grade able to play brass, woodwind, or percussion instruments at a beginning/intermediate level. A minimum of one-year experience on the instrument, or permission of the instructor, is needed to enroll. Students learn the fundamentals of musicianship and technical skill through the study of different styles of band literature. The concert band participates in a variety of school and district-wide bands performances, as well as other performance opportunities that arise. Band members may audition for the Middle School Wind and Jazz Ensembles. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 8).

### **4. *STRING ENSEMBLE 8 (full year)***

This course is open to eighth grade students who play violin, viola, cello, or string bass with a minimum of two year's experience on their instrument, or with permission of the instructor. String Ensemble 8 performs in all Middle School String concerts as well as the annual district-wide strings performance. Eighth grade String Ensemble members may audition for the select Town Orchestra. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. This is a yearlong course. Students enrolled in this course receive one Trimester of Art (Art 8).

## **SELECT PERFORMING GROUPS - AFTER SCHOOL AND FEE-BASED**

### ***MIDDLE SCHOOL SELECT CHOIR***

This performing group is composed of students selected by audition. Accepted students must be members of the sixth, seventh, or eighth grade curricular performing ensembles. Select Choir rehearses two afternoons per week at Pollard and members need to commit to attend both rehearsals to be admitted into the group with a successful audition. All Select Choir members need to commit to a minimum of two afternoons to be in the group. Some additional rehearsals may be added as the concerts approach. The Select Choir performs for professional and community organizations, and regional festivals. Interested students are strongly encouraged to consider studying voice privately, though it is not required. This is a fee based ensemble.

### ***JAZZ ENSEMBLE***

This performing group consists of students selected by audition from the sixth, seventh and eighth grade bands. Students study and perform multiple styles of jazz and popular music. The

Jazz Ensemble performs at school events, and a variety of community and state events. Instrumentation includes saxophones, trumpets, trombones, drum set, guitar, bass, piano, and other instruments at the discretion of the director. The Jazz Ensemble meets two afternoons a week at Pollard. All accepted students must be in Concert Band preferably, or one of the other daytime performing groups, if the student is skilled and dedicated enough to manage both ensembles. Interested students are strongly encouraged to be studying their instrument privately, though it is not required. This is a fee based ensemble.

### ***TOWN ORCHESTRA***

This performing group consists of string players from grades six through nine who are selected by audition. Accepted students must be members of the sixth, seventh or eighth grade string ensembles, or one of the daytime performing ensembles, if the student is skilled and dedicated enough to manage both ensembles. The Town Orchestra performs in numerous school concerts, in addition to community and regional events. Town Orchestra meets one afternoon per week at Pollard. Interested students are strongly encouraged to be studying their instrument privately, though it is not required. This is a fee based ensemble.

### ***WIND ENSEMBLE***

This performing group consists of wind and percussion players from grades six through eight who are selected by audition. Accepted students must be members of the sixth, seventh or eighth grade concert bands, or one of the other daytime performing ensembles, if the student is skilled and dedicated enough to manage both ensembles. The Wind Ensemble rehearses one afternoon per week at Pollard and performs at a variety of concerts each year, including participation in the state concert band festival (MICCA). Interested students are strongly encouraged to be studying their instrument privately, though it is not required. This is a fee based ensemble.

### ***MIDDLE SCHOOL MUSICALS***

This co-curricular experience involves students from the sixth, seventh, and eighth grades in producing a classic fully staged musical production. Students with acting/singing roles on stage are selected by audition. Other students have the opportunity to join the technical theater crew, working backstage on set, costumes, lighting, props, and more. The majority of rehearsals take place 3-5 days a week after school, with some weekend and evening dates as the performance dates get closer. The production process usually runs from early November through early February. All students grades six through eight are welcome to audition.

### ***MIDDLE SCHOOL PLAY***

This co-curricular theater experience involves students from the sixth, seventh, and eighth grades in producing a traditional play. Students with speaking roles will be selected and cast based on auditions. Other students have the opportunity to join the technical theater crew, working backstage on set, costumes, lighting, props, and more. The majority of rehearsals take place 3-5 days a week after school, with some weekend and evening dates as the performance dates get closer. The production process usually runs from late March through early June. All students grades six through eight are welcome to audition.



## **LITERACY**

### ***LITERACY FOR LEARNING 6 (trimester)***

This trimester course is designed to ensure that students gain an introduction to the range of reading skills needed for the complex literacy tasks they will encounter in various academic areas throughout middle school and beyond. In this project-based learning course, students take on the personas of inventors and entrepreneurs and then study a variety of texts in order to understand their purpose and characteristics. Then, they use both their personal lens (consumers) and adopted professional lens (inventors/ entrepreneurs) to create their own texts in service of their companies.

Students explore a selection of real-world texts in order to see how information can be presented through different types of texts across a range of subject areas (i.e. descriptive texts, origin stories, advertisements, business memos, sales pitches, etc.) The texts themselves may vary over the course of the year, depending on the needs and interests of the students. The goal of the course is to enable students to apply the powerful literacy skills and strategies learned in this course to their academic texts in school, as well as in their lifelong reading experiences.

In this course students will:

- Build their awareness of disciplinary literacy, the idea that there are unique skills and strategies used by expert readers and writers in each subject area.
- Identify their personal reading preferences, strengths, and areas for growth.
- Talk about their reading processes with peers to uncover and strengthen how they make sense of challenging texts.
- Read a wide-range of texts while considering text structures and styles, the author or source, and the various skills and approaches a reader must use to navigate different types of challenging reading.
- Learn and apply a core set of strategies that they can use flexibly as readers depending on the text, context and purpose of their reading.

Students demonstrate their learning in various ways including through collaborative conversations, self-assessment, written responses, and project-based assessments.

### ***READING SUPPORT 6 (full year)***

This small group reading supports general education students who would benefit from additional literacy instruction. Reading Support in grade 6 provides students with explicit teaching of essential literacy skills, guided practice, and ongoing assessment. Groups are small, and instruction is targeted toward the unique individual needs of the student. Students are identified for Reading Support using a wide variety of data, including MCAS, formative assessment data, and teacher recommendation. While this is a year-long program, based on need and/or progress, students may enter or exit at various times during the year.

**LITERACY SUPPORT 7 (trimester)**

Pollard offers small group Literacy support to general education students who would benefit from additional literacy instruction. Literacy Support 7 provides students with explicit teaching of essential literacy skills, guided practice, and ongoing assessment. Groups are small, and instruction is targeted toward the unique individual needs of the student. Students are identified for Literacy Support using a wide variety of data, including MCAS, formative assessment data, and teacher recommendation.

**MATHEMATICS*****MATH 6 (full year)***

The Massachusetts Mathematics Curriculum Frameworks Incorporating the Common Core State Standards frame the major mathematical work in this course. It is aligned with the recommended pathway for grade 6 students as outlined in these mathematics standards.

The purpose of the MATH 6 course is to ensure that all students have been introduced to and have mastered the necessary prerequisite skills and essential knowledge to begin the transition to algebraic reasoning. This course will review and extend the students' mathematical knowledge and skill development. Students study the following topics: number theory, fractions, decimals, ratio and proportion, percents, geometry, integers, statistics, probability, and an introduction to variables and equations.

The Standards for Mathematical Practice complement the content standards so students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout middle school. In addition, preparation for the Grade 6 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

***MATH 7 (full year)***

The Massachusetts Mathematics Curriculum Frameworks Incorporating the Common Core State Standards frame the major mathematical work in this course. It is aligned with the recommended pathway for grade 7 students as outlined in these mathematics standards. Students study the following topics: simplifying expressions, computation and analysis with integers and rational numbers, solving and graphing equations and inequalities, two-dimensional and three-dimensional geometry, ratios, proportions, percents, probability, and statistics.

The MATH 7 course is designed to develop basic arithmetic and pre-algebraic skills and concepts. Students will apply arithmetic and pre-algebraic skills to real-world situations involving ratios, proportions and percents; understanding and application of proportional reasoning is emphasized. Variables are used in working with patterns, formulas and graphing. Integer and rational number operations are introduced. Students simplify numerical expressions and evaluate variable expressions. Geometric relationships and spatial sense are developed by drawing, measuring and classifying geometric figures; real-world applications such as scale drawings, area, surface area and volume frame the focus. Experiments and simulations help students determine probabilities, make predictions and inferences based on experimental and

theoretical probabilities.

The Standards for Mathematical Practice complement the content standards so students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout middle school. In addition, preparation for the Grade 7 MCAS will be provided.

Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

### ***MATH 8 (full year)***

The Massachusetts Mathematics Curriculum Frameworks Incorporating the Common Core State Standards frame the major mathematical work in this course. It is aligned with the recommended pathway for grade 8 students as outlined in these mathematics standards. Students study the following topics: solving and graphing equations and inequalities, graphing linear equations, slope, and intercepts, writing linear equations in slope intercept form, solving systems of linear equations, exponents and scientific notation, radicals and pythagorean theorem, geometry, and polynomials.

This course focuses on formulating and reasoning about expressions and equations, using functions to describe quantitative relationships, analyzing two and three dimensional space and figures and understanding and applying the Pythagorean theorem. Students use linear equations and systems of linear equations to represent, analyze and solve a variety of problems. Understanding of distance and angles, translations, rotations, reflections and dilations, and ideas about congruence and similarity are used to describe and analyze two-dimensional figures and to solve problems. Students apply the Pythagorean theorem and complete their work on volume by solving problems involving cones, cylinders and spheres. Students will derive formulas, explain the advantages of different forms of equations, and apply these algebraic skills to a variety of real world applications and mathematical problems. Problem solving, communicating mathematical ideas, technological connections, and reading a text for understanding are stressed throughout the course.

The Standards for Mathematical Practice complement the content standards so students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout middle school. In addition, preparation for the Grade 8 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

### ***MATH SUPPORT 6, 7, 8 (trimester)***

High Rock and Pollard offer small group math support to general education students who would benefit from additional mathematics instruction. Math Support Class provides students an opportunity for repeated practice, pre-teaching, re-teaching and/or explicit teaching of essential math concepts and skills. This additional math course allows students to address any areas of need and gain critical support on topics students are learning in their grade level math

course. Groups are small, and instruction is targeted toward the unique individual needs of the student. Students are identified for Math Support using MCAS, in-class assessment data, and teacher recommendation.

### ***DATA SCIENCE I (trimester)***

This course builds upon the mathematical and problem-solving skills taught in grade level classes, while encouraging students to reason with, interact with, and think critically about data in many forms. Students will actively engage in the exploration of the intersection of math with the real world and other school subjects while studying data sets that require organization and analysis. Throughout this course, students will be encouraged to develop rich questions, be curious, determine patterns through an exploratory approach, use evidence, and demonstrate strong reasoning. In addition, students will work with spreadsheets, studying measures of central tendency and manipulating data to “tell a story” using a data set. In the final weeks of the trimester, students will be required to complete a capstone project through which they will explore personal meaning and relevance, conducting a data inquiry and exploring questions that are interesting to them and potentially supportive of the Needham community.

### ***DATA SCIENCE II (trimester offering for grade 8 only)***

This course builds upon mathematical and problem-solving skills taught in grade level classes and the Data Science I course. Students will continue and enhance their study of data by incorporating the statistical content and skills learned in their Math 7 courses and deepen their understanding of big data, spreadsheets, and “telling a story” using data sets. Students will extend their work with data sets requiring organization and analysis to linear regression and exploring confounding variables and their effects on data results. Throughout the trimester, students will develop their capstone project, including choosing a topic of their own, researching a statistical question, and conducting a data inquiry.

## **MEDIA & TECHNOLOGY**

### ***DIGITAL TECHNOLOGY 6 (trimester)***

In this class, using a variety of applications and platforms, students develop technology skills that they will be able to transfer to other academic areas. Students learn to access, use, and organize files and applications on multiple devices. Students will practice and apply skills in multimedia presentations, video editing, interactive games, and coding. Focusing on effective communications, they will author creative works in a variety of media, including video, animation, and podcasts. Students will build upon their knowledge of coding and will develop a simple interactive program. Students will expand their knowledge and understanding of digital citizenship and anti-cyberbullying, and will learn that what they do online can be permanent and can impact themselves and others, now and in the future.

### ***DIGITAL TECHNOLOGY 7 (trimester)***

In this class, students will improve their use of digital tools to collaborate, communicate, and create. Students will explore new technologies through project-based learning with an emphasis on developing independent problem solving skills and practicing concepts of the design process. Internet safety and anti-cyberbullying instruction continue to be a focus of the digital citizenship curriculum in this course. Students will develop 21<sup>st</sup> century skills transferable to other applications, devices, and a variety of academic areas.

## **SCIENCE**

### ***SCIENCE 6 (full year)***

This is a general science course focusing on topics in the physical, life, and earth sciences. It includes the study of matter and its interactions **with energy**, waves and communication, force interactions and motion in our universe, cellular and body systems, fossils as evidence of past events, and aspects of engineering design.

Laboratory activities are an integral part of the course. Emphasis is placed on the development of laboratory, writing, and study skills through an integrated learning approach. The Science & Engineering Practices (skills) and Crosscutting Concepts (themes) are emphasized throughout the course.

### ***SCIENCE 7 (full year)***

This is a general science course focusing on topics in the physical, life, and earth sciences. It includes the study of energy and heat concepts, ecology, electromagnetism, human impacts and interactions with the environment, and Earth's changing surface. These units of study are united through an overarching theme of systems and cycles.

Concepts are reinforced by multiple teaching strategies including teacher led instruction, hands-on activities, inquiry and student presentations. Considerable emphasis is placed on the development of problem solving, and science thinking skills, as well as student decision making based on specified and diverse case studies. The Science & Engineering Practices (skills) and Crosscutting Concepts (themes) are emphasized throughout the course, and students are often asked to consider the role that humans play in shaping and being impacted by their environment.

### ***SCIENCE 8 (full year)***

This course is an integrated program relating the important physical science, earth science, and engineering and technology concepts of our world. The principles of forces, motion, density, forms of energy, **heredity and evolution** and chemistry are studied and related to concepts that describe the features and processes of the Earth and its resources. The principles and processes of technology and engineering are also woven into the above scientific concepts. Teacher led instruction, hands-on activities, and inquiry based learning are an integral part of the course. Emphasis is placed on the development of communication, reading, writing, problem solving, inquiry, and laboratory skills. The Science & Engineering Practices (skills) and Crosscutting Concepts (themes) are emphasized throughout the course.

### ***ENGINEERING DESIGN 7 & 8 (trimester)***

This course is a hands-on (prototype based) course that applies engineering and technology principles to challenges based on systems and materials. The investigated technologies are in the fields of manufacturing, construction, transportation, communication, and environmental engineering. The course integrates science, engineering, and technology concepts and relates them to improving the environment and people's lives.

Problem solving and critical thinking skills are developed as students examine real-world applications of science and math. Classroom studies take place in a shop and laboratory environment where practical safety procedures are emphasized during the learning. In **grade 7**, students apply the Engineering Design Process as they develop products, design or improve systems, and reflect on the interactions of products and systems. In **grade 8**, students look at materials and manufacturing. Within this framework, they develop an understanding of how we can sustainably support the wants and needs of a growing and evolving population.

## **SOCIAL STUDIES**

### ***SOCIAL STUDIES 6 (full year)***

The course begins with a study of archaeology and traces human development from prehistoric times through the ancient time period in the Near East, Eastern Africa, and Southern Europe. Students learn about civilizations in each region including Sumer, Babylonia, Assyria, Phoenicia, Israel, and Palestine in the Near East; Egypt and Nubia in Eastern Africa; and Greece and Rome in Southern Europe. The regional approach provides students with the opportunity to extend their knowledge of the physical world and expand their capacity for geographic reasoning.

Developing students' critical thinking skills around how we study history using primary and secondary sources to understand the past is a key component of the course. Special attention is paid to exposing students to a wide variety of sources, especially traditionally underrepresented voices, as students learn about each region. Additionally, through a variety of research projects, the course strengthens students' ability to develop research questions and conduct historical inquiries.

### ***SOCIAL STUDIES 7 (full year)***

Grade 7 Social Studies builds on the foundation set by Grade 6 Social Studies. Similar emphasis is placed on introducing students to the cultural achievements of ancient and classical civilizations worldwide. The course is also organized by geographic region as students continue to extend their knowledge of physical geography and expand their capacity for geographical reasoning. The regional approach challenges students to understand the movement of peoples

and ideas across time and place. Students learn about the ancient history, indigenous peoples and cultural traditions of Australia and Oceania, South Asia, East Asia, the Middle East, and Central America, the Caribbean Islands, and South America.

This course broadens students' understanding and appreciation of diverse and indigenous people around the world while empowering students to be critical thinkers. It helps students to recognize the universal human conditions while providing opportunities to learn about the unique contributions of each region to world history. Special attention is paid to exposing students to a wide variety of sources, especially traditionally underrepresented voices, as students learn about each region.

Fostering students' religious literacy skills is a major component of the course. Students learn about the origins of various belief systems, and make connections between geography, theology, and culture. Additionally, through a variety of research projects, the course strengthens students' ability to develop research questions and conduct historical inquiries.

### ***SOCIAL STUDIES 8 (full year)***

Grade 8 Social Studies focuses on civics and early American history. The course introduces students to key ideas contained within the Declaration of Independence and the Constitution, their history, and their impact today. By focusing on the time period before, during, and after the American Revolution, students gain knowledge about how our government developed and its contemporary legacy.

The course provides opportunities for students to practice skills needed as citizens, such as how to express their ideas and respectfully participate in conversations with those of differing opinions. Special attention is paid to exposing students to a wide variety of sources, especially traditionally underrepresented voices, as they learn about American history. Other important civics concepts include how to get involved with one's community or government and the rights and responsibilities of citizenship.

Developing students' critical thinking and media literacy skills are major components of the course. The course challenges students to use evidence to develop persuasive arguments orally and in writing. Conducting inquiries through a variety of short and long-term research assignments helps students solidify skills taught in prior years and prepare for subsequent courses.

## **WELLNESS**

The Middle School wellness program is designed to influence healthy behaviors and provide students with the knowledge and skills necessary to make lifestyle decisions that will promote optimal health and well being throughout their entire lives. The program comprises Health Education, Physical Education, and Experiential Education. The curriculum in each of these disciplines emphasizes students' responsibility for their own health and well being and fosters the development of skills and knowledge that will help them to nurture and care for themselves in the social, emotional, physical, and intellectual areas of their lives.



***Notice to Parents about sex and sexuality education in grades 6, 7, and 8:***

A unit focusing on sex and sexuality education is included in the **grade 6** and in the **grade 8** health education programs as part of our comprehensive sexuality education program. Detailed information about the content of these courses can be viewed on the Needham Public Schools website:

[http://www.needham.k12.ma.us/departments/curriculum\\_and\\_academics/wellness/sexuality](http://www.needham.k12.ma.us/departments/curriculum_and_academics/wellness/sexuality)

In 7<sup>th</sup> grade, there will be **no formal sex education presented**. Issues of sexuality related themes will be included, however, within other health units. There is mention of how the use of alcohol can influence your decisions around sexual behavior, and how peers can pressure you to do things you really don't want to do. The issue of sexual harassment will be discussed during a presentation by Needham Youth Services. HIV/AIDS is discussed briefly within the context of a unit on diseases.

**Parent Engagement:** We believe that parents/guardians are their children's primary educators and that each family has its own values and beliefs about sex and sexuality. The units with sexuality related topics/themes are designed to include homework assignments that promote discussion between students and a parent/guardian or other trusted adult about topics that are being covered in class.

**Parent Notification:** Parents/guardians will receive a letter in the fall from the Superintendent's Office that will inform them that topics related to sex and sexuality will be included in their sons/daughters 6<sup>th</sup> grade and 8<sup>th</sup> grade health classes. Prior to the start of these curriculum units, an additional communication will be sent home by the school. Detailed information about our curriculum can be viewed online at [http://www.needham.k12.ma.us/departments/curriculum\\_and\\_academics/wellness/sexuality](http://www.needham.k12.ma.us/departments/curriculum_and_academics/wellness/sexuality)

Under Massachusetts law, parents/guardians have the right to decide whether their child will participate in any single lesson or unit that includes information about human sexuality. If you want your child to be exempted from any lesson(s) that contain information about human sexuality, a note or letter to the building principal requesting that your child not participate in the sexuality portion of the health education curriculum is all that is needed. An appropriate alternative activity will be provided for students whose parent(s)/guardian(s) chooses to have them not participate.

***WELLNESS GRADE 6 (trimester)***

In Grade 6, health education and physical education are combined to make up our wellness program. Students are assigned to a wellness class and spend part of that time in physical activity and part of that time in the classroom devoted to the study of health education. Both disciplines contribute to each student's ongoing development of the skills, knowledge, and attitudes needed to participate in an active healthy lifestyle.

The ***physical education*** portion of the wellness course provides a natural opportunity for students from five different elementary schools to develop physical skills, get to know one another, make friends, and develop lasting relationships. Physical education provides students



with an opportunity to interact with one another through their physical involvement in games, sports, dance, and other movement activities. A special emphasis is placed on improving physical fitness and creating positive social experiences. In sixth grade physical education classes, teachers modify traditional games to increase students' opportunities to apply skills learned in elementary school, practice new skills, and develop a better understanding of movement concepts and game strategies. In addition, students learn the fitness benefits of daily physical activity and begin to understand how goal setting can help to improve personal fitness. Specific units for students in the sixth grade physical education classes include activities such as basic sports skill practice, basketball, creative games, fitness, invasion games, self-exploration, team handball, and volleyball. Students are expected to change into appropriate clothing for physical activity. This includes loose fitting shorts or sweatpants, T-shirts or sweatshirts, socks and sneakers.

The ***health education*** portion of the wellness course begins with an introduction to our wellness model and includes activities that help students make new friends and understand the qualities of healthy friendships. Conversely, students are taught how to identify characteristics of harmful friendships and resolve conflicts in their relationships. Students also study diet, food marketing, and nutrition fads as they relate to issues of healthy and unhealthy eating behaviors. They learn practical skills, such as how to choose healthy snacks and how to read food labels. They compare food products to learn how to make the best choice out of three different brands of the same food (e.g., name brand, store brand, organic brand).

A unit called Healthy Relationships is taught within health education and contains issues of sex and sexuality. This unit defines sex, sexuality and intimacy and teaches communication and decision-making skills to help support the healthy relationships and the new social expectations these students will encounter in middle school and beyond. Students will be given a homework assignment that promotes communication with a parent/guardian or other trusted adult about the topics and experiences covered in this unit. The specifics of this unit can be viewed on the Needham Public Schools website:

[http://www.needham.k12.ma.us/departments/curriculum\\_and\\_academics/wellness/sexuality](http://www.needham.k12.ma.us/departments/curriculum_and_academics/wellness/sexuality)

### ***PHYSICAL EDUCATION 7 (trimester)***

The seventh grade physical education program recognizes the uniqueness of the middle school child and is designed to support students' healthy social development by emphasizing the qualities of cooperation, competition, and good sportsmanship. Through their active participation in games, sports, adventure activities, fitness, and dance, students develop physical skills and improve their individual fitness levels. Specific units for students in the seventh grade include basketball, circuit training, creative games, invasion games, paddle tennis, survivor challenge, team handball, volleyball, and weight training.

### ***HEALTH EDUCATION 7 (trimester)***

In seventh grade health classes, students are expected to be more reflective by exploring how their behaviors, and the behaviors of others, influence health and well-being. Students revisit the

wellness hexagon, identify areas where their habits contribute positively to their overall well-being and target a few behavior changes for improvement (physically, socially, emotionally, spiritually, and intellectually). They explore the website *MyPlate.gov* to learn about the five major food groups and how to incorporate them into their meal planning. They learn to read food labels and carefully analyze some of their favorite foods. Students study the causes, signs and symptoms of communicable diseases and non-communicable diseases with a focus on strategies for keeping the immune system healthy. They examine the spread of communicable diseases including direct contact (sexual contact, close touching, etc.), indirect contact (airborne, foodborne, waterborne, animal/vector – e.g. rabies transmitted by an animal bite or malaria transmitted by a mosquito bite) and explore prevention strategies.

Students learn ways to prevent and manage non-communicable diseases with emphasis on prevention. For example, they learn how to check their skin for melanoma and are given a homework assignment that requires them to teach a parent/guardian to do this life-saving skin check. Students study the physical, social, emotional and spiritual consequences of substance use (tobacco, electronic cigarettes (vaping), hookah, marijuana, and alcohol). They learn about the effects of smoking on the different systems of the body and the connection between tobacco and cancer. Students learn about the consequences of addiction and the dangers of other forms of smoking (electronic cigarettes, hookahs, marijuana). Students learn about the short and long-term effects of marijuana and discuss social and emotional consequences. They use a decision-making model and refusal skills to practice getting out of a situation in which they are being pressured to use marijuana.

Students learn about the dangers of using alcohol at an early age, calculate blood alcohol levels for different types of alcoholic drinks (beer, wine, hard liquor) and study the short and long-term effects of using alcohol (including the effects on the teenage brain). Students research current events to find a real-life consequence of binge drinking or heavy drinking. They share their article with the class and are asked to take the article home to discuss with a parent/guardian. Students also study mental health illnesses such as anxiety, depression and suicide prevention. They are taught how to recognize warning signs of a mental illness, ask for help, or respond as a bystander (S.O.S. training – Acknowledge, Care, Tell (ACT)). A unit called “risky behaviors” has been established to deal with current student issues, which fall into the categories of peer pressure, friendship/gossip, and social media safety. Although the skills taught in this unit remain consistent, the specific examples used within these units are fluid and designed to respond directly to current health and social issues within the Pollard community.

### ***PHYSICAL EDUCATION 8 (trimester)***

The eighth grade physical education program recognizes the unique role that eighth grade students play as leaders in the middle school community. Through the use of games, sports, adventure activities, fitness, and dance, students are encouraged to be active, improve their fitness levels, and model good sportsmanship. Health fitness assessments are conducted to help students assess their own cardiovascular health, abdominal strength and endurance, upper body strength and flexibility. Students are given the results of their individual tests and are encouraged to develop exercise practices that will help them to improve their scores. Specific units for students in the eighth grade include basketball, circuit training, creative games, invasion games, paddle tennis, survivor challenge, team handball, volleyball and weight training.

### ***HEALTH EDUCATION 8 (trimester)***

In eighth grade health classes students examine the causes and potential influence of body image, and eating disorders. Students explore gender stereotypes to see how culture can influence our feelings about our bodies and the bodies of others. They are encouraged to identify the positive qualities and characteristics of themselves in an effort to improve self-esteem.

Students also explore mental health to better understand anxiety and depression. Students learn that it is just as important to seek help for a mental health concern as it is for a physical health concern. Students will continue to study the effects of alcohol and marijuana as well as other drugs (e.g. cocaine, heroin, prescription drugs) as a progression to the substance abuse prevention units.

They study the vocabulary of important drug terms (illicit drug, prescription drug, over the counter drug, synthetic drug, ingestion, inhalation, absorption, etc.). Students gain an understanding of how drugs affect the teenage brain and how repeat use can cause addiction. They explore marijuana, cocaine, heroin, (what does it look like, what type of drug is it, how is it used, how does it affect the body, and practice ways to say no to drugs (refusal skills). Members of the Students Advocating Life without Substance Abuse (SALSA) group at the high school speak to the advantages of living substance free and reiterate and practice the use of refusal skills. Lesbian, Gay, Bisexual, Transgender, and Questioning (LGBTQ) Identities as well as other terms relevant to sexuality are reviewed at the start of the sexuality education unit.

Students learn the structure and function of the male and female reproductive systems and examine the advantages (physically, socially, emotionally) of delaying sexual activity. Students examine the characteristics of healthy and unhealthy relationships. They learn about the pressures involved in being in a relationship and focus on skills to deal with the pressures that some may feel to make choices in order to please another person (this will include the pressure to participate in sexual behaviors). Students will discuss personal boundaries, practice assertive communication skills, and practice strategies for making good decisions that reflect their values and goals. They will also learn skills for resolving conflict in their relationships. Needham Youth Services will present a workshop about sex in the media called “Picture Perfect”.

### ***EXPERIENTIAL EDUCATION 7 (trimester)***

This course uses the Needham Public Schools social and emotional learning standards as guidelines for student outcomes. In this course, the teacher purposefully engages students in a variety of indoor and outdoor challenge activities to facilitate a process of participation, reflection, and growth. Participation in these activities provides an opportunity for students to practice skills for decision-making, communication, cooperation, conflict resolution, problem solving and developing a healthy relationship with self and others. Students will be given problems to solve that will require them to practice these skills and then participate in a process of reflection and discussions to encourage them to think about ways to apply these skills to their daily lives now, and in the future. At the core of this program, is the student’s need for a safe, risk-taking environment, which fosters appreciation of others and promotes individual contribution, commitment, and follow-through. Specific activities stress creating community,

developing healthy interpersonal relationships, group problem solving, and building trust and empathy.

### ***EXPERIENTIAL EDUCATION 8 (trimester)***

This course uses the Needham Public Schools social and emotional learning standards as guidelines for student outcomes. The eighth grade experiential education course was developed, specifically, to address the high levels of stress students have reported in the MetroWest Adolescent Health Survey (MWAHS). Survey data suggests that stress has become a significant health factor in the lives of adolescents in Needham and beyond. According to the 2016 MWAHS, 38% of Needham High School students report life being “very stressful in the past 30 days.” Data shows that students report that stress steadily increases as they progress through high school (19.8% in the 9th grade - rising to 61.9% in 12th grade). Pollard Middle School students are also reporting that school issues, social issues, appearance issues, and family issues represent four areas of significant stress in their daily lives. Given that students will encounter life situations that are stressful, and that these encounters will become more frequent as they grow older, this course will teach eighth grade students a variety of different skills and strategies that they can use to help them cope with stress. This course will also teach strategies to recognize the difference between healthy stress and unhealthy stress and help students discover ways to monitor their own capacity for stress.

## **WORLD LANGUAGES**

### ***SPANISH 7A (full year)***

Spanish 7A is an introductory, novice level course designed for students who have not previously studied Spanish. Like Mandarin 7 and French 7, Spanish 7A is a two-year language commitment. Students who enroll in Spanish 7A continue to Spanish 8A. Thematic units of study include: greetings & cultural courtesies, likes & dislikes (sports, arts, extracurricular activities), weather, the calendar, family and pets, the house, food and ordering at a restaurant, and places around town. This course also introduces students to elements of Spanish culture (products, practices and perspectives).

### ***SPANISH 7 (full year)***

Spanish 7 is a continuation of Spanish 6 and is conducted primarily in Spanish. In Spanish 7, students’ capacity to understand and be understood continues to grow, as does their knowledge of Spanish-speaking countries. Throughout the school year teachers intentionally review previously learned content to reinforce knowledge and skills acquired in Spanish 6. Thematic units of study include: describing oneself, family and pets, friends, and one’s home.

### ***SPANISH 8A (full year)***

Spanish 8A is a continuation of Spanish 7A. It is a novice level course designed for students who began studying Spanish in grade 7. (Students who have been studying Spanish since elementary school should continue to Spanish 8). In Spanish 8A, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice-mid range. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. There is also an emphasis on celebrating what students “can do” and developing students’ confidence as communicators.

Students who choose to continue with their Spanish studies at Needham High School will move on to “Spanish 2” in 9th grade and then “Spanish 3” in 10th grade.

### ***SPANISH 8 (full year)***

Spanish 8 is a continuation of Spanish 7 and is conducted primarily in Spanish. In Spanish 8, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice range. In this course, students transition from the production of short phrases (speaking and writing) to the creation of complete sentences and short paragraphs. Students’ comprehension of conversations and short passages in the target language expands as does their capacity to ask and answer basic questions. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. Thematic units of study include: community, clothes and shopping, food, and ordering at a restaurant.

Students who choose to continue with their Spanish studies at Needham High School will move on to “Spanish 2” in 9th grade and then “Spanish 3” in 10th grade.

### ***FRENCH 7 (full year)***

French 7 is designed for students who wish to learn French and who have not previously studied French. Like Mandarin 7 and Spanish 7, French 7 begins a two-year language commitment. Students who enroll in French 7 continue to French 8. French 7 offers an introduction to French language and culture at the novice level. Thematic units of study include: greetings & cultural courtesies, likes & dislikes (sports, arts, extracurricular activities), weather, the calendar, family and pets, the house, food and ordering at a restaurant, and places around town. This course also introduces students to elements of French culture (products, practices and perspectives).

### ***FRENCH 8 (full year)***

This course is a continuation of French 7. It is conducted primarily in French. In French 8, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice range. In this course, students’ capacity to ask and answer basic questions expands as does their comprehension of conversations and short passages in the target language. Students transition from the spoken and written production of short phrases in

the target language to the creation of complete sentences and short paragraphs. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. Thematic units of study include: community, shopping (for food and clothing), film study (les Choristes), study of literature (Fama va en Californie), descriptive language (people, places, things), and leisure activities.

Students who choose to continue with their French studies at Needham High School will move on to “French 2” in 9th grade and “French 3” in 10th grade.

### ***MANDARIN 7 (full year)***

Mandarin 7 is designed for students who wish to learn Mandarin and who have not previously studied Mandarin. Like French 7 and Spanish 7, Mandarin 7 begins a two year language commitment. Students who enroll in Mandarin 7 continue to Mandarin 8.

Mandarin 7 offers an introduction to the pronunciation and intonation of Mandarin as well as the development of novice level speaking, listening, reading and writing skills. Thematic units of study include: Greetings, numbers, the calendar, age, polite expressions, and classroom objects. This course also introduces students to elements of Chinese culture (products, practices and perspectives).

### ***MANDARIN 8 (full year)***

Mandarin 8 is a continuation of Mandarin 7. In Mandarin 8, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice range. Thematic units of study include: Family, animals, sports and leisure activities, physical descriptions, and food. This course also introduces students to elements of Chinese culture (products, practices and perspectives). Students who choose to continue with their Mandarin studies at Needham High School will move on to “Mandarin 2” in 9th grade and “Mandarin 3” in 10th grade.

***INTRODUCTION TO CHINESE LANGUAGE & CULTURE 8 (trimester)*** This trimester course is part of the Performing Arts rotation in grade 8. It is an option provided to students who do not select band, strings, or chorus. This course is designed to enable students to gain some exposure to the extensive and profound Chinese civilization. It will introduce students to various Chinese cultural forms, including fine arts, language, festivals, and cuisine, as well as give students a glimpse of both ancient and modern Chinese life. The course will include hands-on projects, arts and crafts, a taste of Chinese food, and simple conversations in Mandarin.



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Principal

*Mary Kay Alessi*  
*Alison Coubrough-Argentieri*  
*Pierre Jean*  
Assistant Principals

**TO:** Dr. Dan Gutekanst, Superintendent of the Needham Public Schools

**FROM:** Aaron Sicotte, Principal of Needham High School

**RE:** NHS Program of Studies 2023-24

**DATE:** 17 January 2023

I am pleased to present the Needham High School Program of Studies for the 2023-2024 school year. It reflects a rich variety of challenging and exciting courses that allow our students to tailor their high school experience in relevant and personalized ways. The offerings allow each student to forge their own path through both our required courses and the broad range of elective options, ensuring they are well prepared for the expectations and opportunities they will find after leaving the halls of NHS. The Program of Studies reflects the culmination of work by many at NHS, with no one more instrumental than Alison Coubrough-Argentieri. As Assistant Principal, Alison coordinates the school's entire scheduling process, including the creation of this essential guiding document.

The adjustments to this version of our Program of Studies from previous editions are all noted in red. Each of the changes and additions allow us to further strengthen our course and elective offerings to better meet the current needs and interests of our students, while still offering the variety of options we have presented in the past. The adjustments also are intended to provide greater clarity on the courses themselves, prerequisites, and the nature of our levels. In addition to clearer descriptions, we are also offering a few new courses at NHS. All of the additional courses being offered are outlined following this overview and will demonstrate our ongoing commitment to providing the students of Needham High School a robust array of relevant and exciting courses to take.

One final component worth noting is our effort to guide students on IEPs more transparently through the course selection process, in particular highlighting ways to access our Fine and Performing Arts curriculum.

I am honored to present this Program of Studies for the 2023-24 school year, and proud of both the thought that went into its creation, and the dedication by so many professionals to bring the document to life for our students each day.



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---

## Needham High School

### Program of Studies Updates for the 2023-2024 School Year January, 2023

#### New Courses By Department

#### ENGLISH LANGUAGE LEARNERS PROGRAM

The goal of the **English Learner Education (ELE) Program** is to provide English Learners with systematic, explicit, and sustained English language development and meaningful participation in Needham High School's general educational program. English Language Development happens in two places: SEI content classrooms and EL classes.

#### SEI Classes

Teachers across all content areas receive a sheltered English instruction endorsement from the state in teaching English learners. English learners learn grade-level content alongside their proficient English-speaking peers in classes across the content areas.

#### EL

#### Classes

---

ELs are grouped together and licensed EL teachers guide students in a systematic, dedicated, and sustained study time to develop various aspects of the English Language that proficient English-speakers already know. The goal of EL instruction is to advance English language development and to promote academic achievement. EL instruction includes social and academic language in all four domains including listening, speaking, reading, and writing. Depending on their language needs, a student may enroll in more than one English Learner Education course during the school year.

---

#### English Learner Education: Newcomer/Entering

(4 credits)

Full Year

Grades 9-12

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This course is designed for students who have recently arrived in the United States and have little or no proficiency in English. The course will support language acquisition to help students succeed academically. Students will practice reading, writing, listening, and speaking through a variety of different activities and lessons. Content includes grammar, reading comprehension, presentations, and support with adjustment to American culture and life. Prerequisite: Placement by EL Teacher.

---

## English Learner Education: Entering/Beginning

(4 credits)

Full Year

Grades 9-12

---

This course is designed for students at a foundational level of English proficiency. It focuses on the development of reading comprehension and writing skills in English and will advance instruction in English grammar, vocabulary and usage. Students will continue to develop English listening and speaking skills. Prerequisite: Placement by EL Teacher.

---

## English Learner Education: Developing/Expanding

(4 credits)

Full Year

Grades 9-12

---

This course is designed for advanced English Learners who are transitioning to English proficiency. This course will advance instruction in English grammar, vocabulary and usage in order to polish and refine writing. It will also emphasize close reading and analysis of text and students will continue to practice and develop speaking and listening skills. Prerequisite: Placement by EL Teacher.

## ENGLISH DEPARTMENT COURSES

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### LGBTQIA LITERATURE

(2 credits)

Semester

Grades 9, 10, 11, 12

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This course will focus on examination and analysis of short stories, fiction, drama, memoir, film, and graphic fiction **by, for, and about** LGBTQIA (lesbian, gay, bisexual, transgender, queer, intersex, asexual) people's lives and experiences. Focus will broaden to include the cultural and social history of LGBTQIA rights and visibility. Coursework will include reading assignments, critical analysis and essays, and class discussions. This elective course is available to students in grades 9-12 and carries two graduation credits. As an elective, this course is supplemental to students' four-year English requirement. Representative texts may include *This Book is Gay* by Juno Dawson; *Fun Home* by Alison Bechdel; *All Boys Aren't Blue* by George M. Johnson; *Gender Queer* by Maia Kobabe; *Giovanni's Room* by James Baldwin; *Rubyfruit Jungle* by Rita Mae Brown



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## FINE AND PERFORMING ARTS COURSES

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### EXPLORATIONS OF ART

(2 credits)

Semester

Grades 9, 10, 11, 12

---

This semester based course is open to all students and is perfect for those who have an adventurous interest in visual art and would like to develop skills for future courses in various media. Students will experiment with a variety of 2D, 3D, and Digital materials and concepts, with the intent to understand the artistic process, cultivate their personal interests, and build connections to the outside world. They will learn basic visual art concepts in design and technique, idea development, collaboration, critical analysis and reflection, and portfolio development. Students who are successful in this course may enroll in Art 2, Drawing and Painting II, Digital Art and Animation, Introduction to Photo, Introduction to Ceramics, and Design and Production I.

---

### JAZZ ENSEMBLE/JAZZ ENSEMBLE ACCELERATED

8036

(4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** Students must be members of Concert Band or Symphonic Band to be eligible for Jazz Ensemble. Students who are not enrolled in Accelerated Symphonic Band or Concert Band may request to enroll in Accelerated Jazz Ensemble.

This class is open to students by audition only. Instrumentation is for standard Big Band (i.e. saxophones, trumpets, trombones, piano, guitar, bass and drums). The Jazz Ensemble studies and performs a wide range of music, including Swing, Latin, Funk, and contemporary Jazz. Rehearsals emphasize understanding and playing the various styles, as well as balancing and blending within sections and the entire ensemble. Students also work on improvisation, scales, modes and chord construction. Auditions are held in the spring and the ensemble meets after school throughout the school year. The Jazz Ensemble performs at school concerts, an evaluation festival, and various school and community functions; these public concerts are part of the formal curricula and attendance at them is mandatory.

---

### ADVANCED ACTING STUDY

????

(2 credits)

Semester

Grades 9, 10, 11, 12

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---

Prerequisite: Acting and Improvisation

This semester based course is for students who have completed Acting and Improvisation and are interested in participating in a fully produced play that will be performed in front of an audience (outside of school hours) or at an adjudicated theater festival. Students will learn advanced acting techniques and will further develop their skills in character development and performance.

## HISTORY DEPARTMENT COURSES

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### A WORLD IN TRANSITION: AN INTRODUCTION TO INTERNATIONAL RELATIONS IN THE TWENTY-FIRST CENTURY HON/ACC

????

(4 credits)

Full Year

Grades 11, 12

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Global affairs in the twenty-first century is in a period of transition that is influenced, in part, by changing power dynamics, climate change and technological innovation. In order to be effective global citizens and meet the challenges posed by a changing environment, students must have a good grasp of how the world works. A World in Transition is designed to do just that by providing students with the knowledge, tools and skills to be effective communicators and problem solvers through collaborative projects such as National Security Council simulations and through deep dives into a variety of topics that will include, but not be limited to, history, economics, global health, climate change and international relations. This course will appeal to students that are interested in reading and learning about the complexities of global issues in the pursuit of identifying effective solutions. This is an ideal fit for anyone interested in careers in foreign affairs, journalism, public policy, or international business. The course will be offered at both an Honors and Accelerated level.

## INTERDISCIPLINARY COURSES

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### UPPER CLASS TEACHER AIDE

???

(1 credit)

Semester

Grades 11,12

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Students who are Upperclass Teacher Aides work closely with one teacher in one course, providing assistance to that class throughout a semester. The aide position allows juniors and seniors to gain experience in an educational setting as they learn firsthand some of the tasks and responsibilities of the teaching profession. The responsibilities may include, but are not limited to: assisting with small group work, providing one-on-one tutoring support, researching and preparing instructional materials, creating



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classroom displays, leading mini-lessons, etc. Aides are expected to be present in the class each day, where the majority of the work will take place.

Interested students must get approval from a teacher who will notify the counselor to assign the class on the student's schedule. The class is evaluated on a Pass/Fail basis.

## COURSE LEVEL DESCRIPTIONS

Needham High School offers courses at the College Prep, Honors, and Accelerated levels. The descriptions below are meant to facilitate meaningful conversations about appropriate choices.

Prior to course selection each year, teachers will provide students with a recommendation for the appropriate level based on their assessment of a student's progress. Families are encouraged to review the recommendations and partner with the teachers to consider the most appropriate placement. As they do, students and families should consider the following details in their decision:

- All courses are aligned to the Massachusetts State Frameworks and are designed to appropriately challenge all students in a variety of ways.
- These explanations are meant to be a guide and overview. Teachers will provide appropriate learning experiences and growth toward further independence in each classroom setting.
- The course that is appropriate for each student will vary by subject area and may change as the student moves from 9th grade through to 12th grade and will appropriately shift to meet the developmental readiness as students mature.
- Class sizes tend to be smallest at the College Prep level and largest at the Accelerated level, reflective of the level of direct teacher support that students can expect in each level.
- Students may change class levels from one year to the next, as they and their teachers feel it is appropriate. Moving mid-year is limited to the opening weeks of each semester.
- Additionally, students enrolled in *Advanced Placement (AP)* courses can expect a fast-paced, rigorous, independently-managed learning experience through curriculum established by the College Board for each college-level course.
- **Students and families are encouraged to consider balancing their academic interests, co-curricular activities, and other commitments when reviewing teacher course recommendations for the upcoming year.**

	College Prep (CP)	Honors (Hon)	Accelerated (Acc)
Expected Independence	Students will receive teacher directed support and	Students will receive teacher directed	Students will receive teacher directed support



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	monitoring to build on skills and help facilitate mastery of the core and advanced curriculum.	support and monitoring for all except the basic components of the core content, with students expected to develop an understanding of the basic content largely independently.	and monitoring for primarily the most advanced aspects of the content, with students expected to develop an understanding of the core content largely independently.
<b>Content and Skills</b>	Content and skills will concentrate primarily on core State Frameworks for knowledge, concepts, and skills supporting a foundational understanding of the subject with some focus on advanced content and skills.	Content and skills will balance core State Frameworks for knowledge, content, and skills with advanced content and skills.	Content and skills will concentrate primarily on advanced content and skills, with limited emphasis on foundational content and skills. Class emphasis will be primarily on advanced content and skills with some review of foundational understandings.
<b>Homework Expectations</b>	Homework is designed to reinforce and enrich the content and skills learned in class	Homework is designed to advance the curriculum and provide skill development with some reinforcement.	Homework is designed to advance the curriculum and provide skill development.
<b>Assignment Management</b>	Students will develop the organization needed to balance both short-term and long-term assignments through the course.	Students should possess the strong organizational skills needed to balance short-term and long-term assignments throughout the course.	Students will need to independently balance a variety of short-term and long-term assignments throughout the course.



2023 - 2024

# Program of Studies



A Caring Community Striving for Personal Growth and Academic Excellence  
Needham High School • Needham, Massachusetts



# NOTICE OF NON-DISCRIMINATION

Every person shall have a right to attend the public schools of the town where s/he actually resides. No person shall be excluded from or discriminated against in admission to the Needham Public Schools or in obtaining the advantages, privileges and courses of study of the Needham Public School on account of race, color, sex, gender identity, religion, national origin, sexual orientation, disability, homelessness, or limited English-speaking ability.

The following person has been designated to handle inquiries regarding the school district's non-discrimination policy:

**Name and Title:** Mary Lammi, Assistant Superintendent for Student Support Services

781-455-0400 x11213

mary\_lammi@needham.k12.ma.us

## SCHOOL COMMITTEE

Matthew Spengler, Chair

Andrea Longo Carter, Vice Chair

Dr. Connie Barr

Michael Greis

Elizabeth Lee

Michael E. O'Brien

Alisa Skatrud

## ADMINISTRATIVE STAFF

Dr. Daniel Gutekanst, Superintendent

Dr. Alexandra McNeil, Assistant Superintendent for Human Resources

Ms. Mary Lammi, Assistant Superintendent Student Support Services

Dr. Carmen Williams, Assistant Superintendent for Instruction and Innovation

Ms. Anne Gulati, Assistant Superintendent for Finance and Operations

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# INTRODUCTION

The Needham High School Program of Studies is a reflection of our Core Value that Needham High School is a Caring Community Striving for Personal Growth and Academic Excellence. The Program of Studies provides essential information including course offerings, descriptions, and diploma requirements for all Needham High students. The program is designed to guide the course selection process and should be consulted whenever academic information is needed.

There are three time periods in a student's day that are not reflected in the Program of Studies since they are not credit bearing and do not appear on transcripts, yet are important parts of the NHS experience. Our **X-block** is a designated time in our schedule for academic support from teachers. Students are highly encouraged to meet with teachers for additional help, especially in any classes where they may be struggling in any way. Our **9th Grade Seminar** is a class that our first-year students take part in during their first semester and provides a chance for some foundational skills and supports to be provided as they transition into the high school setting, without interfering with academic classes. Students have the opportunity to complete academic work when not engaged in any of the activities or modules. Finally, our **Directed Study** is an opportunity for 10th - 12th grade students to complete independent work, assignments, and requirements in a self-directed manner in the library or other study spaces throughout the building and campus. Directed study time is also an opportunity for students to meet with their counselor, check in with an available teacher or staff member, and provides time for school-related programs and activities.

The leaders of each of the departments and the school counselors are available to answer any questions regarding the Program of Studies. Students and parents need to select courses carefully. The staffing at Needham High School is based on the courses students select in February/March of the preceding year. It is important to note that it is highly unlikely that course change requests will be honored once the school year has begun. Therefore, parents and students should seek the advice of teachers, department directors/chairs, and counselors in preparing an academic program for next year. Students and parents new to Needham will meet with a counselor before selecting courses. Final responsibility for course selection decisions rests with students and their parents. Students should elect the equivalent of seven full periods of instruction each semester including monitored study time. Final course offerings will be based on enrollment, budgetary considerations, and the impact on the required curriculum. Thank you for your attention to this very important process. I wish you all the best for a successful 2023- 2024 school year.

Aaron Sicotte  
Principal

# CORE VALUES, BELIEFS, & LEARNING EXPECTATIONS

Needham High School is a caring Community Striving for Personal Growth and Academic Excellence.

Needham High School draws from the strengths of the community to create partnerships between faculty, parents, and students, both on an individual level and in groups, in order to provide a high quality education. Teaching and learning are central to our mission, as is integrity.

The school offers students a variety of opportunities to excel and a diversity of perspectives from which to learn in an environment that is both nurturing and challenging.

The balanced student is able to participate actively in school and society, be creative, and self-advocate while determining their unique path to fulfillment.

At Needham High School, we believe meaningful critical inquiry empowers all students to collaboratively navigate challenging ideas and topics, embrace a variety of experiences, identities and viewpoints, and connect authentically with the world they inhabit and for which they share responsibility. We are dedicated to establishing and maintaining communities throughout the school that are safe, inclusive and supportive academic and interpersonal spaces, where students can explore nuanced curricula, safely pilot their ideas and perceive disagreement as an opportunity to learn.

## TEACHING & LEARNING FRAMEWORKS

In conjunction with our school-wide learning expectations (e.g., Communication; Research; Analysis; Personal Responsibility; Civic Responsibility) and our Portrait of a Needham Graduate Core Competencies (e.g., “Preparing all Needham Public School Students to be...Creative Thinkers and Problem Solvers; Communicators and Collaborators; Knowledgeable; Responsible and Resilient; Socially and Culturally Competent”), student achievement and growth will be measured in the following domains:

**Skill Enrichment** -We embrace a growth mindset in our work to empower all Needham High School students to write effectively; research effectively; read critically for comprehension; solve complex problems; think critically; demonstrate non-written communication skills; demonstrate effective organizational skills; and monitor and direct their learning using various feedback sources. We believe that academic skills and social-emotional wellness are the foundation for students’ social and civic inquiry and outreach.

**Positive & Proactive Digital Citizenship** – We believe in a thorough source analysis, through which students consider the reliability, bias, and transparency of materials that supplement their exploration of core course texts, resources, and artifacts. Teaching students to be discerning consumers of online information is an essential skill, and our instruction empowers the discovery of trustworthy content, responsible online sharing practices, and negotiation of online communication.

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**Equitable Inquiry** – We believe in engaging students in challenging critical inquiry as a means to achieve more equitable classroom, local, and national communities. This is most effectively accomplished through rigorous discourse exploring the role of history, power and privilege through lenses (i.e., race, ethnicity, faith, class, power, culture, gender, gender identity, sexual orientation, ability) that inform students’ understanding of core content as well as their own evolving views, values, and identity.

**Civic Expectations & Student Voice** – Through student-centered, collaborative and personally relevant inquiry, students will develop individual and collective voice, heightened self-confidence, agency and purpose. We aspire to increase students’ capacity to participate in dialogue across differences and - through authentic engagement and reflection - consider the perspectives of those whose experience and position in the world differ from their own. As students increasingly understand and define their own civic disposition, they will also expand their awareness of others’ fundamental needs and rights. Lastly, students will be encouraged and empowered to take thoughtful action, make informed choices and work together on projects that promote a public good beyond the classroom, forging reciprocal connection with the large communities of which they are a part.

## DIPLOMA REQUIREMENTS

A. To be eligible for a diploma from Needham High School, a person must complete these standards prescribed by the Needham School Committee:

1. Successfully complete courses in this Program of Studies described as follows:
  - a. Four full years of English
  - b. Three full years of Mathematics
  - c. Three full years of History and Social Sciences including one year of United States History
  - d. Three full years of Science
  - e. Two full years of the same World Language
  - f. Two full years of Fine & Performing Arts; a maximum of one semester of Media/Technology may be substituted
  - g. One semester of Health/Physical Education for each year enrolled at Needham High School
  - h. Two credits in Community Service Learning
2. Successfully complete the equivalent of an additional five full year courses or its equivalent as described in the Program of Studies.
3. Earn a minimum total of ninety-two credits in the course of study outlined above or in credits earned with the prior written approval of the Principal.
4. Complete all state-mandated requirements.

B. The Principal may suitably recognize students who have completed all Needham High School requirements but not the state mandated diploma requirements.

C. Students may complete these requirements in less than four years upon prior written application and the approval of the High School Principal.

D. The Principal may make changes in requirements when, in his/her opinion, the best interest of the student will be served.

**All 9th grade students must take a minimum of 24 credits and a maximum of 26 (\*\* the 26 credit max may only be exceeded if a student requests Skills Center, PLC, or an after school class); Grade 10 and 11 students must take at least 24 credits with a maximum of 28; and seniors must have a minimum of 22 credits and a maximum of 28 (\*\* For grades 10, 11, and 12, the 28 credit maximum may be exceeded if a student selects an after school course in addition to the full schedule).**

## COURSE LEVEL DESCRIPTIONS

Needham High School offers courses at the College Prep, Honors, and Accelerated levels. The descriptions below are meant to facilitate meaningful conversations about appropriate choices.

Prior to course selection each year, teachers will provide students with a recommendation for the appropriate level based on their assessment of a student's progress. Families are encouraged to review the recommendations and partner with the teachers to consider the most appropriate placement. As they do, students and families should consider the following details in their decision:

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- All courses are aligned to the Massachusetts State Frameworks and are designed to appropriately challenge all students in a variety of ways.
- These explanations are meant to be a guide and overview. Teachers will provide appropriate learning experiences and growth toward further independence in each classroom setting.
- The course that is appropriate for each student will vary by subject area and may change as the student moves from 9th grade through to 12th grade and will appropriately shift to meet the developmental readiness as students mature.
- Class sizes tend to be smallest at the College Prep level and largest at the Accelerated level, reflective of the level of direct teacher support that students can expect in each level.
- Students may change class levels from one year to the next, as they and their teachers feel it is appropriate. Moving mid-year is limited to the opening weeks of each semester.
- Additionally, students enrolled in *Advanced Placement (AP)* courses can expect a fast-paced, rigorous, independently-managed learning experience through curriculum established by the College Board for each college-level course.
- **Students and families are encouraged to consider balancing their academic interests, co-curricular activities, and other commitments when reviewing teacher course recommendations for the upcoming year.**

	College Prep (CP)	Honors (Hon)	Accelerated (Acc)
Expected Independence	Students will receive teacher directed support and monitoring to build on skills and help facilitate mastery of the core and advanced curriculum.	Students will receive teacher directed support and monitoring for all except the basic components of the core content, with students expected to develop an understanding of the basic content largely independently.	Students will receive teacher directed support and monitoring for primarily the most advanced aspects of the content, with students expected to develop an understanding of the core content largely independently.
Content and Skills	Content and skills will concentrate primarily on core State Frameworks for knowledge, concepts, and skills supporting a foundational understanding of the subject with some focus on advanced content and skills.	Content and skills will balance core State Frameworks for knowledge, content, and skills with advanced content and skills.	Content and skills will concentrate primarily on advanced content and skills, with limited emphasis on foundational content and skills. Class emphasis will be primarily on advanced content and skills with some review of foundational understandings.

<p><b>Homework Expectations</b></p>	<p>Homework is designed to reinforce and enrich the content and skills learned in class</p>	<p>Homework is designed to advance the curriculum and provide skill development with some reinforcement.</p>	<p>Homework is designed to advance the curriculum and provide skill development.</p>
<p><b>Assignment Management</b></p>	<p>Students will develop the organization needed to balance both short-term and long-term assignments through the course.</p>	<p>Students should possess the strong organizational skills needed to balance short-term and long-term assignments throughout the course.</p>	<p>Students will need to independently balance a variety of short-term and long-term assignments throughout the course.</p>

# **COURSE CHANGE PROCEDURES & ADD/DROP POLICY**

## **PHILOSOPHY BEHIND THE ADD/DROP POLICY**

At Needham High School we encourage all students to make thoughtful decisions in selecting courses, to challenge themselves appropriately, to persevere and develop resilience when presented with growth opportunities, and to balance their academic responsibilities with their extra-curricular activities and life outside of school.

The partnership between students, families and teachers begins with the course selection process. Students and families are expected to very carefully choose courses for the following year. The high school follows a specific procedure at course selection time that requires input from teachers and students and encourages input from families. Students and families with questions at that time should consult teachers, counselors and other staff to assist in making appropriate choices regarding courses. Student course selection is the first step in crafting the high school master schedule, a process that takes months, and creating course sections based on student enrollment.

## **COURSE CHANGE PROCEDURE**

There can be times when, despite everyone's best efforts, a particular course placement may not meet the student's needs. In those cases a student's options are:

- drop the course;
- drop the course and replace it with a different course;
- or change the level (College Prep, honors or accelerated) of the course.

These course changes can be characterized as either 'add/drop' or 'level change'. In both cases there is a specific process and timeline to be followed. Students should see their school counselor to initiate a course change request. All course changes require the approval of the appropriate Department Chair/Director, who must balance the needs of an individual student with the needs of all students impacted by the proposed change.

## **ADD/DROP**

A student may request to drop a course at any time during the school year. If a student drops a course after one complete quarter, the course will be represented on the permanent high school transcript with a grade of 'W'. There is no guarantee that if a student drops a course there will be room for the student in another course. Most often the only option for a student's schedule is a study hall. A student should be cautious when dropping a course that they are still carrying the required minimum number of credits for the school year and that they are still on track to fulfill all the graduation requirements.

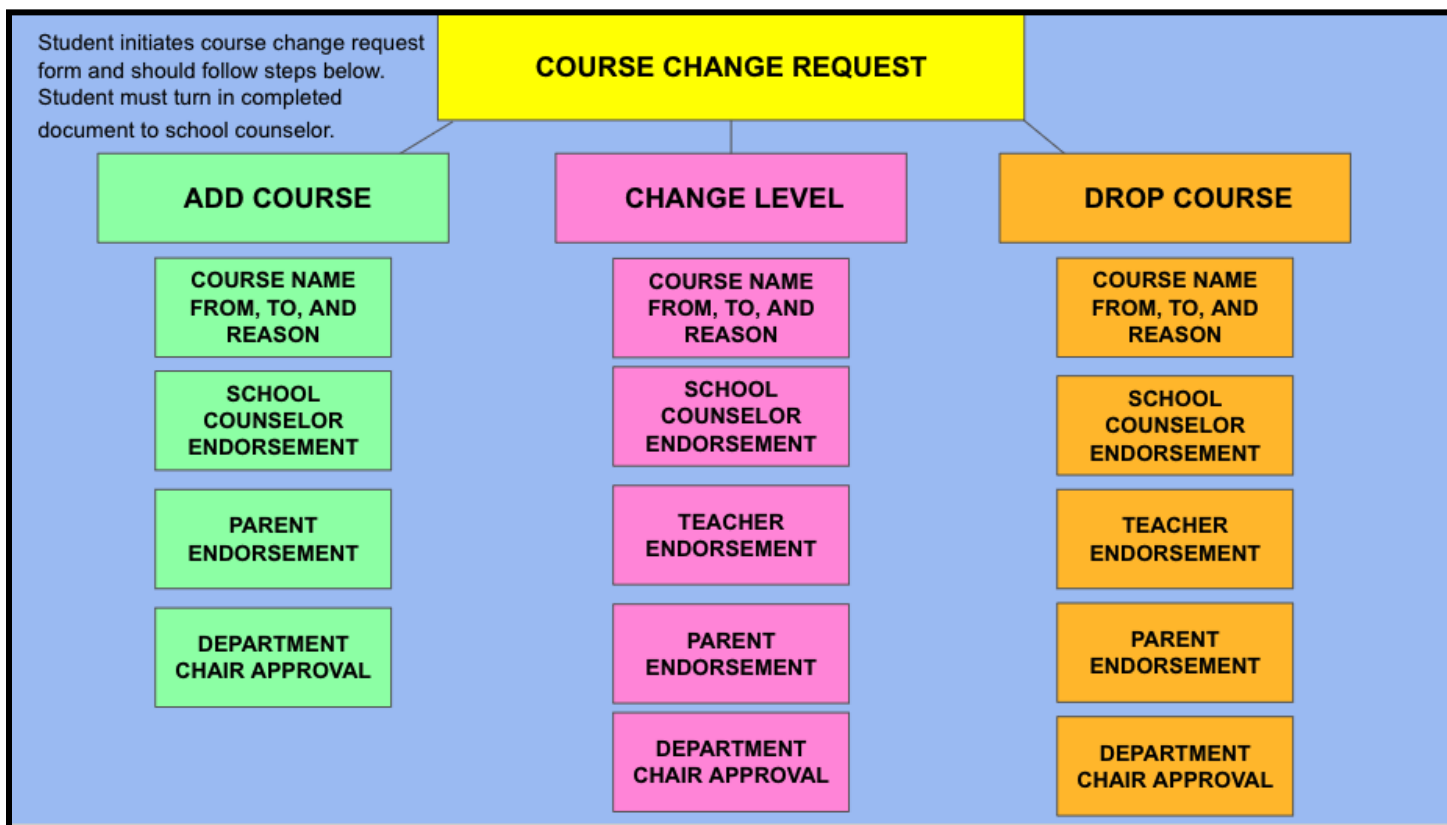
A student who wishes to add a course must make that request by the end of the first two instructional cycles of the class. No student will be allowed to enter a new course after that time unless there are extenuating circumstances.

## **LEVEL CHANGES**

A student may request to change the level of a course up until the end of Term 1. Level changes after that time will be considered only under extenuating circumstances.

Transfer of grade: If a level change takes place before the final two weeks of Term 1, the teachers of the two courses will consult with each other in conjunction with the department chair regarding the student's term grade. If a student requests a level change within the final two weeks of the end of Term 1, the student's grade for Term 1 will stand and the student will begin the new class on the first day of term 2.

## COURSE CHANGE FLOW CHART



## SUMMER SCHOOL

All summer school work must be approved IN ADVANCE by the principal or director/chairperson of the department. A form for this purpose is available in all department offices.

Credit received in summer school does not automatically entitle the student to elect the next higher course in a sequence. No more than three courses repeated in summer school and/or by tutoring will be allowed for credit toward a diploma. Only one course in a sequential subject may be made up in summer school or by tutoring. Additional credits will not be granted for a repeated course. The director must approve remedial courses prior to registration.

In any case, the original grade recorded by a Needham High School teacher is not to be changed as a result of summer study. The grade received from summer school will be recorded on the permanent record card in addition to the original grade.

## REMEDIAL AND MAKE-UP COURSES

1. The student who does not complete a course satisfactorily and receives an F grade (of at least a 50) may:
  - A. Receive credit for the subject by repeating the course successfully in an accredited summer school.
  - B. Repeat the subject as an additional course and attain a satisfactory grade.
  - C. A student who fails English must make up the course in an approved summer school or repeat the course the following year. Two years of English cannot be taken simultaneously in grades 9 and 10.
2. The student who does not attain a necessary prerequisite grade for continuation in a sequential course may:
  - A. Repeat the course in an accredited summer school.

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- ~~B. If no accredited summer school is available, have tutoring approved by the appropriate director/chairperson. Tutoring must be taken at the rate of one hour a day for a minimum of thirty days. The student must then pass a qualifying examination if appropriate.~~
- C. Repeat the course and obtain a qualifying grade.

## ENRICHMENT PROGRAMS

Needham High School encourages students to participate in enrichment programs. There are programs offered in the Needham Summer School, through the TEC collaborative, and in various public and private schools. Participation in such programs may be recorded on your official transcript, may be awarded credit, and may fulfill core requirements. Students must receive prior approval from the Principal for enrichment courses to be recorded on the transcript and to receive credit.

# COURSE OFFERINGS

The Program of Studies booklet is divided by departments.

<a href="#">English</a>	<a href="#">Media</a>	<a href="#">Wellness</a>
<a href="#">English Language Learner</a>	<a href="#">Mathematics</a>	<a href="#">World Languages</a>
<a href="#">Fine and Performing Arts</a>	<a href="#">Science</a>	<a href="#">Other Elective Offerings</a>
<a href="#">Performing Arts</a>	<a href="#">History and Social Sciences</a>	

Course descriptions are written by department chairs and directors and are approved by the Needham School Committee.

## COURSE NUMBERS

The first digit defines the department.

The second and third digits are for scheduling purposes.

The fourth digit of the course number indicates the level of difficulty.

1=AP or Acc; 2=Honors; 3=College Preparatory

0, 5, 6, 7, 8, 9 are unlevleed or independent study.

## LENGTH/CREDIT

F/4 = A full year course meeting every scheduled block earning four credits

F/2 = A full year course meeting only half the scheduled blocks earning two credits

S/2 = A one semester course meeting every scheduled block earning two credits

/4 or /2 = Course not regularly scheduled earning four or two credits



A yellow star indicates a new course offering for 2023-2024.

## ENGLISH

Num	Length	Credit	Course	Num	Length	Credit	Course
0101	F	4	English 9 Acc	0548	S	2	Journalism 1 - <i>The Hilltopper</i> 2 credit
0102	F	4	English 9 Hon	0632	F	4	Braver Newer World Hon
0112	F	4	English 9IP	0301	F	4	English 11 Acc
0103	F	4	English 9 CP	0302	F	4	English 11 Hon
0201	F	4	English 10 Acc	0303	F	4	English 11 CP
0202	F	4	English 10 Hon	0421	F	4	AP Literature & Composition
0203	F	4	English 10 CP	0431	F	4	English 12 Acc
0212	F	4	English 10IP	0432	F	4	English 12 Hon
0311	F	4	AP Language & Composition	0433	F	4	English 12 CP
0631	F	4	Braver Newer World Acc	0491	F	4	Greater Boston Project Acc
0510	S	2	Public Speaking	0520	S	2	Experimental Writing
0530	S	2	Film Studies	0547	F	4	Journalism 1 - <i>The Hilltopper</i>
				0645	S	2	★ LGBTQIA Literature

The goal of the English curriculum is to strengthen critical communication skills and to encourage an appreciation of literature. Accelerated and Advanced Placement courses are designed for students who demand especially challenging academic experiences and who are comfortable working independently with advanced materials. Although the course essentials at each grade are consistent, the pace and depth are different at each level. Nightly reading and writing assignments are progressively defined according to grade level and depend upon the complexity of a given text and corresponding class assignments.

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### ENGLISH 9

*0101; 0102; 0103*

*(4 credits)*

*Full Year*

*Grade 9*

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Ninth grade English includes the study of literary forms in conjunction with the development of foundational language arts skills. Students examine characteristics and critical elements of Fiction, Poetry, Nonfiction, Memoir, and Drama. Students will develop and refine organization and clarity of expression in critical writing and personal

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essays, practice effective speaking and listening skills and study vocabulary, usage and writing mechanics. All ninth grade students will complete a comprehensive research assignment, the Grade 9 Research Paper. Representative texts include Harper Lee's *To Kill a Mockingbird*, Marjane Satrapi's *Persepolis*, John Steinbeck's *Of Mice and Men*, James McBride's *The Color of Water*, George Orwell's *Animal Farm*, Lorraine Hansberry's *A Raisin in the Sun*, William Shakespeare's *Romeo and Juliet*, Sue Monk Kidd's *The Secret Life of Bees*, Elie Wiesel's *Night*, Mark Haddon's *The Curious Incident of the Dog in the Night-Time*, Wes Moore's *The Other Wes Moore*, and a collection of core poems.

Students enrolling in 9 Accelerated should be prepared for nightly reading assignments of approximately 30-35 pages; in 9 Honors 20-25 pages; in 9 College Prep 10-15 pages. Similarly, writing amounts vary by level.

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## ENGLISH 9IP

0122 (4 credits)

Full Year

Grade 9

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### **Students who choose this course must also sign up for Math 9IP, Biology 9IP, and World History 9IP.**

Ninth grade English includes the study of literary forms in conjunction with the development of foundational language arts skills. Students examine characteristics and critical elements of Fiction, Poetry, Nonfiction, and Drama. This course draws explicit connections to the other 9IP subjects using a project-based learning approach to the interdisciplinary themes of Observations and Patterns, Systems, Power and Influence, Disease; and Revolutions. Students will develop and refine organization and clarity of expression in critical writing and personal essays, practice effective speaking and listening skills and study vocabulary, usage and writing mechanics. Students will also complete a comprehensive research assignment, the Grade 9 Research Paper, which will be connected to at least one other 9IP subject. Representative texts include Mark Haddon's *The Curious Incident of the Dog in the Night-Time*, Harper Lee's *To Kill a Mockingbird*, George Orwell's *Animal Farm*, Marjane Satrapi's *Persepolis*, Elie Wiesel's *Night* and a collection of core poems. Students enrolling in English 9IP should be prepared for nightly reading assignments of 20-25 pages, which is the established amount for the honors level.

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## ENGLISH 10

0201; 0202; 0203 (4 credits)

Full Year

Grade 10

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Tenth grade English offers a detailed examination of archetypes within the literary genres of Romance, Tragedy, Comedy and Satire & Irony. Students continue to explore a variety of literary forms and develop and refine their understanding of critical writing, with particular focus on conventions, organization, analysis, interpretation and style. Additionally, students learn and practice skills emphasized in the Massachusetts State Frameworks and the Common Core Curriculum, particularly those assessed by standardized tests. All tenth grade students will complete a comprehensive research project, the Sophomore Oral Presentation. Representative Texts include J.D. Salinger's *The Catcher in the Rye*, Sherman Alexie's *The Absolutely True Diary of a Part-Time Indian*, William Shakespeare's *Macbeth*, Laurie Halse Anderson's *Speak*, Maya Angelou's *I Know Why the Caged Bird Sings*, Benh Zeitlin's *Beasts of the Southern Wild* (film), Jesmyn Ward's *Sing, Unburied, Sing*, Ken Kesey's *One Flew Over the Cuckoo's Nest*, Barbara Kingsolver's *The Bean Trees*, George Orwell's *1984* and Sophocles' *Oedipus the King*.

Students enrolling in 10 Accelerated should be prepared for nightly reading assignments of approximately 35-40 pages; in 10 Honors 25-30 pages; in 9 College Prep 15-20 pages. Similarly, writing amounts vary by level.

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**ENGLISH 10IP**

0212

*(4 credits)**Full Year**Grade 10*

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Students who choose this course must also sign up for Math 10IP, Physics 10IP, and World and America 10IP. Tenth grade English offers a detailed examination of archetypes within the literary genres of Romance, Tragedy, Comedy and Satire & Irony. Students continue to explore a variety of literary forms and develop and refine their understanding of critical writing, with particular focus on conventions, organization, analysis, interpretation and style. This course draws explicit connections to the other 10IP subjects using a project-based learning approach to the interdisciplinary themes including Making an Argument, Relationships & Change, and Force, with a focus on skills around presentations and communication. Students will develop and refine organization and clarity of expression in critical writing and personal essays, practice effective speaking and listening skills and study vocabulary, usage and writing mechanics. Students will also complete a comprehensive research project, the Sophomore Oral Presentation which will be connected to at least one other 10IP subject. Representative texts include William Shakespeare's *Macbeth*, *Boxers* by Gene Luen Yang, *The Girl Who Smiled Beads* by Clemantine Wamariya and Elizabeth Weil, *1984* by George Orwell, and other common grade 10 texts. Students enrolling in English 10IP should be prepared for nightly reading assignments of 20-25 pages, which is the established amount for the honors level.

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**AP LANGUAGE & COMPOSITION**0311 *(4 credits)**Full Year**Grade 11*

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AP Language and Composition focuses on techniques of persuasion and formal rhetoric. The bulk of the curriculum is American non-fiction. The four main units are as follows: Unit 1: Introduction to Rhetoric; Unit 2: Freedom (The Democratic Ideal); Unit 3: Equity (Social Justice); Unit 4: Opportunity (The American Dream). AP Language explores these ideas through a variety of texts and media and prepares students to enter into historical and contemporary conversations about matters of great importance to America. Texts include fiction, historical and contemporary essays, speeches, advertisements, biographies, studies, reports, films, cartoons, TED talks, poetry, etc.. Students write for a variety of purposes, audiences, and occasions, and write in a variety of forms including personal narrative, rhetorical analysis, online discussion, and persuasive argument. All students will complete a comprehensive, issue-based research paper that explores a self-selected topic from multiple points of view and synthesizes a range of sources. Students conduct a comprehensive review of usage, grammar and compositional mechanics. The course prepares students to take the AP Language exam offered by the CEEB.

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**ENGLISH 11**

0301; 0302; 0303

*(4 credits)**Full Year**Grade 11*

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Eleventh grade English offers a detailed examination of American literature and thought, focusing on the ways in which the various literary movements have shaped the idea of America. Students will think critically about how

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American Literature constructs and reflects shifting beliefs about religion, government, race, gender, morality, beauty and truth itself. In addition to developing critical insight into the works of major American writers and an awareness of the historical context of these writings, students identify and analyze how literary elements enhance meaning and review/refine usage, grammar and mechanics. All eleventh grade students must complete a comprehensive research project, the Junior Research Paper. Representative texts include Arthur Miller’s *The Crucible*, Nathaniel Hawthorne’s *The Scarlet Letter*, essays by Henry David Thoreau and Ralph Waldo Emerson, Charlotte Perkins Gilman’s “The Yellow Wallpaper,” *The Narrative Life of Frederick Douglass*, Zora Neale Hurston’s *Their Eyes Were Watching God*, Mark Twain’s *The Adventures of Huckleberry Finn*, August Wilson’s *Fences*, F. Scott Fitzgerald’s *The Great Gatsby*, Arthur Miller’s *Death of a Salesman*, Gene Luen Yang’s *American Born Chinese*, and Kurt Vonnegut’s *Slaughterhouse-5*.

Students enrolling in 11 Accelerated should be prepared for nightly reading assignments of approximately 40-45 pages; in 11 Honors 30-35 pages; in 11 College Prep 20-25 pages. Similarly, writing amounts vary by level.

### **AP LITERATURE & COMPOSITION**

0421 (4 credits)

Full Year

Grade 12

Advanced Placement Literature and Composition is designed to enable advanced students to gain first year college mastery of writing and literature. Units on nonfiction, drama, fiction and poetry review the elements and terms of each genre and require students to demonstrate their analytical and expository skills in writing and discussion. Students practice for the AP Literature and Composition exam, assume major responsibility for small group presentations and conduct research and analysis using critical sources. Continuous outside reading is assigned. Upon completion of the course, students may take the AP Exam in Composition and Literature offered by the CEEB if they so choose.

### **ENGLISH 12**

0431; 0432; 0433 (4 credits)

Full Year

Grade 12

Twelfth grade English offers students an intricate examination of critical literary lenses through diverse, dynamic and didactic artifacts. Students will explore the purpose, assumptions, strategies and critical vocabulary that define Formalist Criticism, Biographical Criticism, Historical Criticism, Psychoanalytical Criticism, Postcolonial Criticism (Honors & Accelerated only) Feminist Criticism (Honors & Accelerated only) and Marxist Criticism (Accelerated only). In addition to demonstrating an understanding of critical lenses and applying their strategies to analyze and interpret literature, students will demonstrate through close textual analysis and interpretation of fiction, poetry, nonfiction and drama an understanding of the relationship between the form of a literary work and its meaning. The course offers students regular opportunities to refine creative, personal and critical essay writing skills, employing various strategies to generate and organize their ideas, draft and revise clear, focused, and coherent compositions and evaluate their own writing.

All twelfth grade students must complete a comprehensive research project, the Senior Paper. Representative texts include William Shakespeare’s *Hamlet*, Toni Morrison’s *Song of Solomon*, Jhumpa Lahiri’s *Interpreter of Maladies*, William Golding’s *Lord of the Flies*, Albert Camus’ *The Stranger*, Margaret Atwood’s *The Handmaid’s Tale*, Ta Nehisi Coates’ *Between the World and Me*, Ryan Coogler’s *Fruitvale Station*, David Mamet’s *Oleanna*.

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Students enrolling in 12 Accelerated should expect to read 40-45 pages per night; in 12 Honors 40 pages; in 12 College Prep 25 pages. Similarly, writing amounts vary by level.

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### **BRAVER NEWER WORLD**

0631, 0632 (4 credits)

Full Year

Grade 12

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Offered for both Accelerated and Honors credit: In this full-year, 12th grade English course, students will explore contemporary identity paradigms through exclusively 21st century literature and media in order to understand the influence of diverse forms of literacy on modern character and voice. Navigating a range of texts and expressive forms—novel, play, podcast, film, music, digital news platform, social media, television, wikis/blogs—students will examine the influence of power, culture, race, gender, sexual orientation, class, and age on popular culture and present-day narrative structures. In the second semester, students will collaboratively design, manage, and deliver a capstone project in which they articulate a contemporary question or problem of their choice, research its nuanced history, and participate in a series of class-designed events during which groups may deliver presentations, facilitate community discussions, organize speakers, and engage in meaningful student activism. Students enrolling in Braver Newer World should expect to read 40+ pages per night. This is a single block, four credit course that fulfills the senior year English requirement.

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### **INTEGRATED SENIOR STUDIES: THE GREATER BOSTON PROJECT**

0491 (4 credits)

Full Year

Grade

9:

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This course explores how individuals and groups have worked throughout history to effect change in Greater Boston. Students will look at various historical moments through a variety of different lenses - population, government, economy, education, and arts and leisure - and consider how these have molded what Greater Boston has become today. The course of study is expressly interdisciplinary, as skills from the disciplines of English, history, and mathematics are brought together to explore Greater Boston's past and present and it is project-based, so group projects make up the majority of the course assessments. The course culminates in the Community Action Project, which entails collaborative exploration into and analysis of at least one area of study from the course; the project allows students to become agents of change as they work to develop, propose, present, and possibly implement their resolutions to existing real-world problems. **This is a double block, eight credit course that fulfills the senior year English requirement.**

## **ENGLISH ELECTIVES**

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### **EXPERIMENTAL WRITING**

0520 (2 credits)

Semester

Grades 9, 10, 11, 12

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Experimental writing is an elective course designed to enable students to approach writing with a sense of

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freedom. Students have experiences in a variety of forms such as letters, personal narratives, journals, short stories, dramatic monologues, dialogues and one-act plays. They write poetry and experiment with different voices and styles. They have opportunities to discuss ideas and to share their writing with other students. Students are expected to complete reading and writing exercises for classroom discussion and evaluation. They are required to respond to both teacher and peer evaluation of their work and to complete the process of writing by editing their work carefully and precisely. Class time is given for individual conferences and evaluations of students' progress.

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**PUBLIC SPEAKING (0510):**

*0510 (2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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Public speaking is designed to enhance students' oral communication skills and to help students develop poise and confidence in public speaking situations. The course provides an opportunity to explore personal attitudes toward public speaking, the verbal and nonverbal dynamics of communication, listening skills, the speech-making process, various delivery styles and techniques and speech evaluation.

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**FILM STUDIES**

*0530 (2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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In this course, students consider the medium of film both as audience and creator. Extensive film viewing and analysis are essential course components as students assess films both in and outside of class to develop their own aesthetic values. Students need to be able to think and write critically about film. Students study the history of film and film theory, learn to analyze their experience as an audience and place themselves within the position of director, cinematographer, editor and screenwriter by creating all elements of a film.

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**JOURNALISM 1 -- THE HILLTOPPER**

*0547 (4 credits)*

*Full Year*

*Grades 9, 10, 11, 12*

*0548 (2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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This semester and full year course will focus on writing for publication and critical consumption and analysis of news media. Students will interact with a variety of article types, including news articles, features, columns, editorials and reviews. The primary emphasis of the course will be the development of all phases of our school-based newspaper, *The Hilltopper*. Students will research and write pieces, edit and layout the paper. Students who have taken the previously titled Journalism and Media class are eligible to enroll in this new offering, though it is not a prerequisite.





## LGBTQIA+ Literature

0645 (2 credits)

Semester

Grades 9, 10, 11, 12

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This course will focus on examination and analysis of short stories, fiction, drama, memoir, film, and graphic fiction **by, for, and about** LGBTQIA (lesbian, gay, bisexual, transgender, queer, intersex, asexual) people's lives and experiences. Focus will broaden to include the cultural and social history of LGBTQIA rights and visibility. Coursework will include reading assignments, critical analysis and essays, and class discussions. This elective course is available to students in grades 9-12 and carries two graduation credits. As an elective, this course is supplemental to students' four-year English requirement. Representative texts may include *This Book is Gay* by Juno Dawson; *Fun Home* by Alison Bechdel; *All Boys Aren't Blue* by George M. Johnson; *Gender Queer* by Maia Kobabe; *Giovanni's Room* by James Baldwin; *Rubyfruit Jungle* by Rita Mae Brown

## **ENGLISH LANGUAGE LEARNERS**

The goal of the **English Learner Education (ELE) Program** is to provide English Learners with systematic, explicit, and sustained English language development and meaningful participation in Needham High School's general educational program. English Language Development happens in two places: SEI content classrooms and EL classes.

### **SEI Classes**

Teachers across all content areas receive a sheltered English instruction endorsement from the state in teaching English learners. English learners learn grade-level content alongside their proficient English-speaking peers in classes across the content areas.

### **EL Classes**

ELs are grouped together and licensed EL teachers guide students in a systematic, dedicated, and sustained study time to develop various aspects of the English Language that proficient English-speakers already know. The goal of EL instruction is to advance English language development and to promote academic achievement. EL instruction includes social and academic language in all four domains including listening, speaking, reading, and writing. Depending on their language needs, a student may enroll in more than one English Learner Education course during the school year.



## English Learner Education: Newcomer/Entering

0986

(4 credits)

Full Year

Grades 9-12

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This course is designed for students who have recently arrived in the United States and have little or no proficiency in English. The course will support language acquisition to help students succeed academically. Students will practice reading, writing, listening, and speaking through a variety of different activities and lessons. Content includes grammar, reading comprehension, presentations, and support with adjustment to American culture and life. Prerequisite: Placement by EL Teacher.

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**English Learner Education: Entering/Beginning**

0987

(4 credits)

Full Year

Grades 9-12

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This course is designed for students at a foundational level of English proficiency. It focuses on the development of reading comprehension and writing skills in English and will advance instruction in English grammar, vocabulary and usage. Students will continue to develop English listening and speaking skills. Prerequisite: Placement by EL Teacher.

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**English Learner Education: Developing/Expanding**

0988

(4 credits)

Full Year

Grades 9-12

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This course is designed for advanced English Learners who are transitioning to English proficiency. This course will advance instruction in English grammar, vocabulary and usage in order to polish and refine writing. It will also emphasize close reading and analysis of text and students will continue to practice and develop speaking and listening skills. Prerequisite: Placement by EL Teacher.

## FINE AND PERFORMING ARTS

All Visual Arts and Performing Arts courses offered may be used to meet the NHS arts requirement of 8 credits for graduation.

### Visual Art Courses

Num	Length	Credit	Course	Num	Length	Credit	Course
7010	F	4	Art 1	7158	S	2	Introduction to Sculpture
7022	F	4	Art 2 Hon	7159	S	2	Digital Art and Animation
7041	F	4	Art 3 Acc	7176	S	2	Intro to Photography 1 (grades 10, 11, 12)
7031	F	4	AP Art and Design 3 (name change and description update)	7177	S	2	Intermediate Photography 2
7141	F	4	Art 4 Senior Studios Acc	7178	S	2	Advanced Photography 3
7116	S	2	Introduction to Ceramics 1	7185	S	2	Advanced Digital Portfolio
7118	S	2	Intermediate Ceramics 2	7193	S	2	Drafting and Linear Perspective 1
7109	S	2	Advanced Ceramics 3	7196	S	2	Drafting and Linear Perspective 2
7199	S	2	Advanced Ceramics Portfolio	7245	S	2	Design & Production 1
7120	S	2	Crafts 1	7235	S	2	Design & Production 2
7128	S	2	Drawing & Painting 1	7237	S	2	Advanced Design & Production 3
7136	S	2	Drawing & Painting 2	7246	S	2	Motion Design
7258	S	2	Product Design & Development	7255	S	2	A Glimpse Through Time: Visual Language and Culture
7238	S	2	Comics	7020	S	2	★ Explorations of Art

Courses are designed to enable students to meet the National Standards, the Massachusetts Frameworks in Arts Education, and the Fine and Performing Arts Processes: Creating, Responding and Presenting, and Performing. Students will also further develop Social-Emotional and 21st Century Skills in all of the Visual Art Courses. Critiques, which are class discussions of student artwork aimed at providing feedback as part of the design process, are an integral part of all Art courses. Homework is assigned on a continuing basis for all courses, and students will experience a variety of strategies dealing with personal artistic assessment.

The Department offers a variety of full year art courses and semester based courses. The full year art courses are designed to be taken in sequential order and are recommended for those students who have the desire to work towards the development of a 2D Portfolio either for submission to the AP College Board or for college applications. It is also possible to work towards a 3D or Digital portfolio with the appropriate sequence of semester based art classes (Please contact the Director of Fine and Performing Arts for guidance if this is a desired outcome).

## FULL YEAR ART COURSES

Designed as a sequential curriculum, students enrolled in Art I through Art IV explore a more challenging dive into personal expression through the visual arts and design. By completing research and planning for artworks, experimenting with various media, tools, and processes, and creating inquiries into topics of interests, students create portfolios of increasingly high level work. These portfolios can be used as part of the college application for studio and design majors or as an enhanced supplement to other programs. In addition, students can choose to enroll in Advanced Placement Art and Design in grades 11 or 12 to submit an exam for potential college credit. Art I-Art IV courses develop a student's ability to communicate visually with intent, develop design vocabulary, and practice methods of presentation. A wide variety of artists are introduced to students to help strengthen their historical understanding of the arts and create connections to larger themes. Through sketchbook use, experimentation with materials, and revision of ideas and pieces, students apply problem solving skills while being challenged to think creatively. Homework is assigned regularly and students participate in various methods of critiques to give and receive feedback about their work and process. Each full year art course earns four credits.

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### ART 1

7010 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This full year course is open to anyone, and is perfect for those who have an interest in visual art. This is a prerequisite course for Art 2. Students experiment with a variety of two dimensional and three dimensional materials and processes. They will learn basic visual art concepts in design and technique, creative development, critical analysis and reflection, and create a variety of artworks throughout the year. Students will use sketchbooks to develop their personal voices, sketch and brainstorm, and touch upon cultural and historical

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contexts in art. Minimal homework is assigned on a continuing basis. Students who pass this course may sign up for Art 2, and Drawing and Painting 2.

Students who are unable to enroll in the full year Art 1 class and have a desire to enroll in Art 2 and AP Art 3 in the future, should enroll in the semester based Explorations of Art course.

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**ART 2**

7022 (4 credits)

Full Year

Grades 10, 11, 12

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**Prerequisite:** Art 1, or both Drawing & Painting 1 and 2, or Explorations of Art, or permission of the department with a portfolio review.

Art 2 Honors is offered for Honors credit and builds upon the fundamentals developed in Art 1 at a more complex, meaningful level. As the bridge that connects Art 1 to Art 3 Advanced Placement and Accelerated courses, a greater time commitment and level of investment is required. Activities, homework assignments, and in class pieces will continue improving technical and conceptual skills. Students will be required to make artistic decisions independently as they begin to develop a personal voice and style. Assignments include both two- and three dimensional media, such as drawing, painting, printmaking, design, and sculpture. In-class critiques, reviews, and self-assessments take place on a regular basis. Weekly homework completion, sketchbook assignments, and the development of a second year portfolio are basic expectations of Art 2 Honors.

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**ART 3**

7041 (4 credits)

Full Year

Grades 11, 12

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**Prerequisite:** Art 2

Offered for Accelerated credit, this course expands upon skills developed in Art 1 and 2. Art 3 students work towards mastery of technical skills in a range of two and three-dimensional media. Students focus on their personal growth and strive to develop a personal voice in their work. A high level of competence will be expected with project development and problem solving, as these skills enable students to push the boundaries of visual concepts and thematic focus. Students must have a strong grasp of the Elements of Art, the Principles of Design, and participate in critical analysis of their work. There will be a heavy homework obligation. A portfolio will be assembled for students to use during college interviews.

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**AP ART ~~3-PORTFOLIO~~ and Design 3**

7031 (4 credits)

Full Year

Grades 11, 12

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**Prerequisite:** Art 2, or Explorations of Art, or both Drawing 1 and 2, and teacher recommendation.

AP Art and Design offers students an opportunity to receive college credit through a hands on studio based portfolio that is submitted digitally. Throughout the year, students complete 15 works of a sustained investigation as their exam, following a chosen line of inquiry and providing evidence of growth and development through photographic documentation. Students can choose from a Drawing, 2D, or 3D portfolio, and are scored with a required rubric developed by the College Board. Work must show evidence of a high level of competence in project development, visual problem solving, technical skill, personal expression and understanding of the elements and principles of design. In addition, students practice writing statements describing their processes and ideas that are submitted with images of their work online. This advanced placement course carries a heavy homework obligation. It challenges students to experiment with many materials, techniques, and ideas. Critical analysis, ongoing critiques, assessment are important components of the course.

To learn more about AP Art and Design, visit their [program page](#) on AP Central.

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**ART 4 SENIOR STUDIO**

7141 (4 credits)

Full Year

Grade 12

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**Prerequisite:** Art 3 Accelerated or AP Art 3 Portfolio, or departmental permission

This is a challenging, Accelerated course that is intended for students who are working toward a sense of mastery and personal growth in their work. This course is for students who are willing to take risks to develop personal ideas and to refine them into skillfully and finely crafted statements. Students will continue preparing and assembling a portfolio that may be used for college admissions and/or scholarships, whether or not they are art-school bound. Part of the class time is devoted to critical analysis of student work and individual assessments. Throughout the year, students participate in curating exhibits at various locations.

## SEMESTER ART COURSES

The Fine Arts program includes a variety of semester length two credit courses. These courses are open to all students. Please note the sequential nature of courses, and be sure to register for the proper level. All students should register for the first level as the entry into a specific course sequence, unless they have Department permission to do otherwise. Homework is assigned on a regular basis. **Students who are interested in pursuing a particular medium in depth are encouraged to do so and are able to work towards a portfolio with the option to submit to the AP College Board.**

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**★ EXPLORATIONS OF ART**

7020 (2 credits)

SEMESTER

GradeS 9, 10, 11, 12

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This semester based course is open to all students and is perfect for those who have an adventurous  
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interest in visual art and would like to develop skills for future courses in various media. Students will experiment with a variety of 2D, 3D, and Digital materials and concepts, with the intent to understand the artistic process, cultivate their personal interests, and build connections to the outside world. They will learn basic visual art concepts in design and technique, idea development, collaboration, critical analysis and reflection, and portfolio development. Students who are successful in this course may enroll in Art 2, Drawing and Painting II, Digital Art and Animation, Introduction to Photo, Introduction to Ceramics, and Design and Production I.

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**INTRODUCTION TO CERAMICS 1**

7116 (2 credits)

Semester

Grades 9, 10, 11, 12

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This semester course introduces students to the use of clay as a medium for art expression. Students will have the opportunity to explore the properties of clay, the history of clay, and create functional and sculptural pieces. Each student will experience the three basic hand building methods (pinch, coil, slab), the basics of the wheel, various surface decoration techniques, and the glazing and firing of all completed pieces.

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**INTERMEDIATE CERAMICS 2 (7118):**

7118 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Introduction to Ceramics

Intermediate Ceramics will engage students in more sophisticated techniques using clay and glazes. Students will learn more complex hand building and wheel throwing techniques, with emphasis on researching and developing personal styles of expression and design concepts. Students will learn and participate in the complete cycle of processing a ceramic work from the recycling of clay to the firing process.

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**ADVANCED CERAMICS 3 (7109):**

7109 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Intermediate Ceramics

This advanced course is designed for students who want to challenge themselves and work independently to master the medium of clay. Building on the skills and techniques developed in Introduction and Intermediate Ceramics, students will be presented with complex visual challenges that will require them to develop, design, and create solutions through hand building and the potter's wheel. A main focus of the course will be for students to design their own unit to explore individual interest and style in depth.

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**ADVANCED CERAMICS PORTFOLIO (CERAMICS 4)**

7199 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Advanced Ceramics 3 and/or permission of the Department

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This is a semester course designed for advanced ceramic students who have successfully completed Advanced Ceramics (ceramics 3). There will be some challenging techniques introduced to push students into experimenting with more difficult ceramic concepts. A main focus will be to continue exploring their individual interest and style to accumulate works to create a portfolio of expressive works suitable for submission to college, and/or possibly for AP submission. Interested students should consult their art teacher and/ or the Director of Fine & Performing Arts to ensure they are qualified for this course.

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**DESIGN & PRODUCTION 1**

7245 (2 credits)

Semester

Grades 9, 10, 11, 12

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This semester course presents a broad range of assignments based on the principles of design and typography. Students learn by progressing through a series of hands-on projects using Adobe Illustrator and Adobe InDesign.

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**DESIGN & PRODUCTION 2 (7235):**

7235 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Commercial Design & Production 1 or permission of the department.

This is an advanced course that provides students with computer based graphic design and production experience through layout and design assignments. It builds upon the skills developed in Design & Production 1, with an increased focus on real world applications of these skills.

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**Advanced Design & Production 3 (7237):**

7237 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Design & Production 2 or permission of the department.

This semester course, which utilizes the Graphics Production Lab, is for students who wish to gain skills in graphics production. Students interface with customers and are involved in all aspects of job production, including interviewing clients, designing, estimating cost, planning, purchasing materials, and the production of the final product. Examples of projects include concert programs, posters and event T-Shirts which are used by the school and community. Successful students may have the opportunity to become paid interns in the summer Graphics Production program.

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**CRAFTS 1**

7120 (2 credits)

Semester

Grades 9, 10, 11, 12

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Students design and create utilitarian and non-functional works using a variety of techniques and materials. A wide variety of crafts, media, forms and techniques from diverse cultures are explored. Assignments emphasize

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the fundamentals of good design, visual creativity, technical skill, and craftsmanship.) Students compare and contrast 'Crafts' with other forms of visual art.

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**DIGITAL ART & ANIMATION**

7159 (2 credits)

Semester

Grades 9, 10, 11, 12

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This course, open to all students, engages students with the world of computer generated art including digital painting and animation. This course takes place in the Fine and Performing Arts Computer lab. Students learn Photoshop, Flash, and other appropriate software to create works of art. Upon successful completion of this course, students will be ready for more advanced creative work in the areas of Photography, Graphic Design, and other arts media that utilize the potential of 21st Century digital tools.

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**MOTION DESIGN**

7246 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Digital Art and Animation.

This semester course is for students wishing to take the skills they have obtained through Digital Art, Design and Animation, and expand and utilize them in the study and creation of 3D renderings and more complex animation. A variety of digital creating tools will be used, such as Maya, as well as non-digital animation techniques, such as stop motion.

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**ARCHITECTURAL DRAWING AND DESIGN 1 (formally called DRAFTING & LINEAR PERSPECTIVE 1)**

(2 credits)

Semester

Grades 9, 10, 11, 12

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This semester course, open to all students, is ideal for those who enjoy a more mathematical and technical approach to drawing. Students will be introduced to the fundamentals of drafting, and the representation of three dimensions on a two dimensional plane by using 1 and 2 point perspective. Students will design and draw from observation and imagination, applying the elements and principles of design. A 3D construction unit will give students the opportunity to articulate design decisions in real space, as determined by a specific challenge and set of criteria. Students will be expected to participate in mini-lectures, coursework critiques and reflections.

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**ARCHITECTURAL DRAWING AND DESIGN 2 (formally DRAFTING & LINEAR PERSPECTIVE 2)**

(2 credits)

Semester

Grades 9, 10, 11, 12

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**Prerequisite:** Drafting & Linear Perspective 1, or permission of the department.

This semester course develops and builds upon the content explored in Drafting and Linear Perspective 1. During

this class, students will work from observation and imagination, finding new applications for rendering in 2 point perspective and will also undertake a drawing that uses three vanishing points. As with Drafting and Linear Perspective 1, there will be at least one 3D challenge. Reference will be made to specific historical architectural styles and developments , to enrich and inform the student’s aesthetic and design decisions.

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**DRAWING & PAINTING 1**

7128 (2 credits)

Semester

Grades 9, 10, 11, 12

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This semester course is open to anyone who is interested in learning how to paint and draw. It provides a solid foundation in the fundamentals of drawing and painting skills as a vehicle for thinking, seeing and communicating. Using a wide variety of tools and techniques, students learn to develop thoughtful and well-crafted pieces which pull from a broad range of subjects and techniques. Students will practice creative brainstorming and process development as a way to make their work personally meaningful. There is a light homework component.

\*\* This course is NOT open to students who have completed Art 1 with a C- or higher. Note: Upon completion of D/P 1 and 2, students may present their portfolio to the FPA staff to determine eligibility for Art 2 Honors.

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**DRAWING & PAINTING 2**

7136 (2 credits)

Semester

Grades 9, 10, 11, 12

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**Prerequisite:** Drawing & Painting 1 or permission of the Department.

This course is a continuation of Drawing & Painting 1. Students will expand and refine their drawing and painting skills and utilize a wide variety of tools and techniques to communicate visually. Journals, self-analysis, and daily critiques are an important part of the course. Upon successful completion of both Drawing & Painting 1 and Drawing & Painting 2, students may present their portfolio to the department to determine eligibility for Art 2 Honors.

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**INTRODUCTION TO SCULPTURE (7158)**

7168 (2 credits)

Semester

Grades 9, 10, 11, 12

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This semester art course is suitable for ALL LEVELS who are interested in diving into the world of three dimensional art. Students discover and explore sculpture through hands-on exploration of a variety of 3D media. They will be introduced to physical, cultural and social contexts in which traditional and modern sculptures are created. A wide range of sculptural disciplines will be touched upon, which may include realistic, figurative, abstract, kinetic and site specific/ public works. Learning the essentials of principles and elements of design, critical reflection and analysis, and creative development are part of this course. There is a minimal homework requirement. (Please note: Interdisciplinary collaboration may take place when schedules allow)

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**INTRODUCTION TO PHOTOGRAPHY 1 (7176):***7176 (2 credits)**Semester**Grades 10, 11, 12*

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This course gives students an introduction to shooting, processing, printing black and white photographs in the darkroom, as well as digital photography and computer enhancing/manipulation techniques with photoshop. Students learn the fundamentals, including how manual cameras work and understanding exposure. When not shooting, processing, or in the darkroom, in class assignments strengthen students' design and conceptual skills. The work of several photographers will be introduced throughout the course. When not shooting, processing, or in the darkroom, in class assignments strengthen students' design and conceptual skills. The work of several photographers will be introduced throughout the course. Students will borrow and sign-out materials, such as cameras from the school, and would benefit from access to a digital single lens reflex (DSLR) camera for personal use outside of school. There is a minimal homework component to this course. It can be applied to the fields of Photography, Design, Advertising, Marketing, and many more! This course is only open to students entering grades 10, 11 or 12.

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**INTERMEDIATE PHOTOGRAPHY 2 (7177):***7177 (2 credits)**Semester**Grades 10, 11, 12*

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**Prerequisite:** Introduction to Photography 1

This course is a continuation of Photography 1 and provides the student with increased experiences in producing high quality photographs. Students progress through a series of incrementally challenging assignments using traditional photography techniques. Advanced techniques are designed to help students develop the skills necessary to translate creative ideas into more personal and compelling images. Since this course requires outside of class photo shooting, students would benefit from having access to a digital single lens reflex (DSLR) camera for their personal use. There is a light homework component to this course. It can be applied to the fields of Photography, Design, Advertising, Marketing, and many more!

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**ADVANCED PHOTOGRAPHY 3***7178 (2 credits)**Semester**Grades 10, 11, 12*

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**Prerequisite:** Intermediate Photography 2

This course is designed for the student who has successfully completed Photography 1 and 2. Students will intensify their use of photography, both traditional and digital, as a means of self-discovery and personal expression while expanding and refining technical control of the medium. Students will learn to identify and articulate a personal response to the environment. The course emphasizes visual problem solving through in-depth photo essays. Since this is an advanced course and requires outside of class photo shooting, students

must have access to a digital single lens reflex (DSLR) camera for their personal use. Students who would like to continue to develop their skills after the completion of Advanced Photography are encouraged to enroll in Advanced Digital Portfolio.

There is a medium amount of homework expected to complete in this course, as students will be asked to regularly make imagery outside of the classroom setting. This course can be applied to the fields of Photography, Design, Advertising, Marketing, and many more!

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**ADVANCED DIGITAL PORTFOLIO**

7185 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** Advanced Photo 3, Commercial Production, or permission of the Department.

This semester course is designed to allow advanced art students who have successfully completed Advanced Photo 3, or Commercial Production 2, to use their digital art skills and accumulated works to create a portfolio of expressive works suitable for submission to college, and/or possibly for AP submission. Interested students should consult their Art teacher and/ or the Director of Fine & Performing Arts to ensure they are qualified for this course. Currently offered during Fall Semester.

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**PRODUCT DESIGN & DEVELOPMENT**

7258 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisites:** Digital Art & Animation; Commercial Design & Production 1; or Engineering Design 101 courses offered at NHS.

In this two credit semester course students will develop and design products, focusing on toys, board games, and musical instruments. They will use the Design Thinking process while creating, testing, and refining the product. Students will explore the design development process in the fields of Product and Toy Design from conceptualizing/ problem solving, drawing, creating presentation boards, models, prototyping etc. The course will cover the importance of functionality, ergonomics, preserved value, play patterns, and demographic needs. The history of product, toy and instrument design will be incorporated to inform student design decisions. They will use simulations and statistics to predict game flow/outcomes; study the physics behind the instruments/sound to inform their design. Instruction includes lectures, literature, design critiques and hands on modeling & utilizing the tools in Studio 605 and The DaVinci Workshop.

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**COMICS**

7236 (2 credits)

Semester

Grades 10, 11, 12

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**Prerequisite:** ~~Drawing and Painting 1, Art 1, or permission of the Department.~~

Whether a Mayan codex or a Superman comic, humans have been expressing ideas and telling stories using images in sequence for hundreds of years. In this class, students will explore the history and uses of 'sequential art', and develop skills to create their own comics and graphic novels. Comic books and graphic novels have become an incredibly powerful, varied, and popular form of visual storytelling. Marvel and DC superheroes reach a vast audience, as does Manga, the Japanese form of comic books. Comics are used to express a range of themes, from comedy, to adventure and fantasy, as well as memoir, and social and political commentary. In this class, students will mostly use traditional art tools - pencil, pen, ink, and brush - to develop their work and vision. We will build upon our drawing skills while also exploring concepts unique to the world of comics, such as lettering, panel structure, panel transitions, and cinematic shots. Character Design and Narrative Structure will also be explored.

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**A GLIMPSE THROUGH TIME: VISUAL LANGUAGE & CULTURE**

7255 (2 credits)

Semester

Grades 9, 10, 11, 12

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This process based course will travel through time to unleash the visual voices that are commonly left out of the conversation. Students will learn what it means to be a visual communicator through a multicultural lens. Regions such as Northwest Africa, the Middle East, pre and post Columbian Latin America, East and Southeast Asia will be the primary focus in this hands-on studio course. Students will get an opportunity to develop work using traditional materials and techniques such as; Calligraphy on Maobianzhi paper, Batiks with wax reduction, and much more. In this course, students will spend approximately thirty percent of time investigating cultural art practices and stories and seventy percent of the time designing, developing and creating pieces influenced by these stories. Together we will study how that language has changed over time, what voices stood out and what voices were left out of the conversation. Students will work together to redirect the conversation to build a more equitable future of visual communicators.

## Performing Art Courses

Num	Length	Credit	Course	Num	Length	Credit	Course
8020, 8029	F	4	Concert/Symphonic Band	8165	S	2	Theatrical Construction & Design
8011	F	4	★ Concert/Symphonic Band Acc	8166	S	2	★ Acting & Improvisation
8036	F	4	Jazz Ensemble (after school)	8167	S	2	★ Introduction to Theatre
8131	F	4	★ Jazz Ensemble Acc (after school)		S	2	★ Advanced Acting Study
8040	S	2	Jazz Improvisation		S	2	Music Production 1
8060	F	4	String Orchestra		S	2	Music Production 2
8061	F	4	String Orchestra Acc	8075	S	2	AP Music Theory 2
8080, 8077	S	2	Chorus/Bella Você Chorus	8070	S	2	Music Theory 1
8081, 8041	F	4	Chorus Acc/ Bella Voce Chorus Acc	8067	F	2	Modern Music Laboratory
8074	F	4	Concert Chorale	8125	S	2	Guitar Class 1
8051	F	4	Concert Choral Acc	8126	S	2	Guitar Class 2
8056	F	4	Chamber Orchestra	8135	S	2	Piano Lab 1
8151	F	4	Chamber Orchestra Acc	8136	S	2	Piano Lab 2

All Performing Arts courses are designed to meet the National Standards and Massachusetts Frameworks in Music or Theater Education and the Fine and Performing Arts Domains: Creating, Responding and Performing. Performing Arts courses are divided into two categories: Performance Courses and Semester Classroom Courses. Performance Courses require students to continually refine their performance skills and to participate in public performances outside of the regular school day. Semester classroom courses do not require public performance.

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# PERFORMANCE COURSES

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## CONCERT/SYMPHONIC BAND

8020/8029 (4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** Previous experience playing a traditional band instrument in an ensemble. Membership in Concert or Symphonic Band is required to audition for Jazz Ensemble, MMEA District and All-State Festivals.

While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.

The High School Band is open to students in grades 9 through 12 who have previously or are currently studying a band instrument (e.g., Woodwind, Brass, or Percussion) at an intermediate to advanced level. The band program is divided into two groups, the Concert Band and the Symphonic Band, based upon playing ability (auditions), teacher recommendation, and balanced instrumentation between the bands. In both ensembles students will study music of a variety of styles and time periods in preparation for concert performance. Rehearsals will include section and/or small ensemble development in addition to the large ensemble playing. The Concert and Symphonic Bands perform in high school concerts, evaluation festivals, and community events throughout the year. Students in both Concert and Symphonic Band will also be exposed to Marching Band repertoire and technique and are encouraged to participate in the selected football game performances. Public concerts are part of each band's formal curricula and attendance at them is mandatory.

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## CONCERT/SYMPHONIC BAND ACC

8121/8011 (4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** a minimum of one year's previous experience in high school band or department permission.

While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.

Students enrolled in Symphonic Band may elect to take Symphonic Band Accelerated to receive academic credit for advanced study and performance on their chosen instrument. Students enrolled in this course must meet all of the Symphonic Band requirements, study their instrument with an approved private instructor, audition for District/Honors groups, perform in an additional ensemble beyond the regular school day, and present a formal solo for their instrument in a recital once each semester. In addition, Symphonic Band Accelerated students are expected to attend one non-Needham formal concert each marking period and complete a written review of the event.

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**JAZZ ENSEMBLE/★ JAZZ ENSEMBLE ACCELERATED**

8036/8131 (4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** Students must be members of Concert Band or Symphonic Band, ~~or Marching Band~~ to be eligible for Jazz Ensemble.

Students who are not enrolled in Accelerated Symphonic Band or Concert Band may request to enroll in Accelerated Jazz Ensemble.

This class is open to students by audition only. Instrumentation is for standard Big Band (i.e. saxophones, trumpets, trombones, piano, guitar, bass and drums). The Jazz Ensemble studies and performs a wide range of music, including Swing, Latin, Funk, and contemporary Jazz. Rehearsals emphasize understanding and playing the various styles, as well as balancing and blending within sections and the entire ensemble. Students also work on improvisation, scales, modes and chord construction. Auditions are held in the spring and the ensemble meets after school throughout the school year. The Jazz Ensemble performs at school concerts, an evaluation festival, and various school and community functions; these public concerts are part of the formal curricula and attendance at them is mandatory.

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**JAZZ IMPROVISATION**

8040 (2 credits)

Semester

Grades 9, 10, 11, 12

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**Prerequisite:** At least two years of successful performance in a middle or high school performing ensemble, or permission of the instructor.

The purpose of this course is for students to develop confidence in independent playing and in the art of spontaneous composition in a jazz style. Students start by learning blues progressions, followed by other typical chord changes and progressions. Additionally, students engage in considerable study of scales, chords, and combo playing. Students are placed in groups according to their ability.

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**STRING ORCHESTRA**

8060 (4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** Previous playing experience in an orchestral style ensemble or department permission. Membership is required to audition for District and All-State Festival Orchestras.

While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.

The String Orchestra is open to students in grades 9 through 12 who play an orchestral string instrument. Students pursue the development of instrumental technique and musicianship through the study of orchestral works from various stylistic periods. Students receive coaching in sight-reading, ear training, and theory. There is opportunity

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for interested students to explore the art of conducting. Solo literature and chamber music are explored as well. The Orchestra performs at school concerts and at various evaluation festivals and community events throughout the year. Public concerts are a formal part of the orchestra's formal curricula and attendance at them is mandatory.

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**STRING ORCHESTRA ACC***8061**(4 credits)**Full Year**Grades 9, 10, 11, 12*

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**Prerequisite:** a minimum of one year previous experience in high school String Orchestra or department permission.

**While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.**

Students enrolled in String Orchestra may elect to take String Orchestra Accelerated to receive academic credit for advanced study and performance on their chosen instrument. Students enrolled in this course must meet all the classroom and performance requirements of the String Orchestra, along with studying their instrument with an approved private instructor, auditioning for District/Honors groups, performing in an additional ensemble beyond the regular school day, and presenting a formal solo for their instrument in recital once each semester. In addition, Accelerated students are expected to attend one non-Needham formal concert each marking period and complete a written review of the event.

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**CHAMBER ORCHESTRA***8056**(4 credits)**Full Year**Grades 9, 10, 11, 12*

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**Prerequisite:** Enrollment is open by audition.

**While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.**

The Chamber Strings Ensemble is open by audition to students in grades 9 through 12 who have previously or are currently studying an orchestral string instrument. Auditions are held in the Spring. Students pursue the development of instrumental technique and musicianship through the study of orchestral works from various stylistic periods. Students receive coaching in sight-reading, ear training, and theory. There is opportunity for interested students to explore the art of conducting. Solo literature and chamber music are explored as well. The Orchestra performs at school concerts and at various evaluation festivals and community events throughout the year. Public concerts are a formal part of the orchestra's formal curricula and attendance at them is mandatory. Membership is required to audition for District and All- State Festival Orchestras.

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**CHAMBER ORCHESTRA ACC***8151**(4 credits)**Full Year**Grades 9, 10, 11, 12*

**Prerequisite:** a minimum of one year previous experience in high school Orchestra or department permission.

While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Director and Special Education.

Students enrolled in Chamber Orchestra may elect to take Chamber Orchestra Accelerated to receive academic credit for advanced study and performance on their chosen instrument. Students enrolled in this course must meet all the classroom and performance requirements of the String Orchestra, along with studying their instrument with an approved private instructor, auditioning for District/Honors groups, performing in an additional ensemble beyond the regular school day, and presenting a recital on their instrument once each semester. In addition, Accelerated students are expected to attend one non-Needham formal concert each marking period and complete a written review of the event.

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### **PERFORMANCE SEMINAR**

~~8068 (2 credits) Full Year Grades 9, 10, 11, 12~~

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~~This course is open to both instrumentalists and vocalists. This is a two-credit year-long course which meets after school on Tuesdays and Thursdays from 2:45-3:45 PM. Students enrolled in this course will primarily work on solo literature that is appropriate for their instrument and skill level, although there may be additional opportunities for collaborative literature based upon the enrollment in the course. Students will receive coaching, participate in mock recitals during class for student feedback, and give formal recitals throughout the school year.~~

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### **CHORUS/BELLA VOCE**

8080/8077 (4 credits) Full Year Grades 9, 10, 11, 12

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The High School Chorus is a performance course open to all students. No previous formal vocal experience is needed. Students sing a wide variety of choral literature representative of different styles by contemporary and historical composers. When there is a large number of soprano/alto voices, a separate treble voice chorus will be scheduled. In addition to selections performed by the entire group, students are provided with opportunities to form smaller groups within the chorus. Student conductors and accompanists have opportunities to develop their skills when appropriate. Students develop musicianship, vocal technique, listening, and critical thinking skills. The chorus performs for high school concerts and community programs throughout the year. Public concerts are a formal part of each chorus' curricula and attendance is mandatory. The student must be a member of the chorus in order to audition for District and All-State Festivals.

While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.

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### **CHORUS/BELLA VOCE ACC**

8081/8041 (4 credits) Full Year Grades 9, 10, 11, 12

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**Prerequisite:** a minimum of one year of previous experience in high school chorus or department permission.

While this is a full year course, accommodations to enroll in one semester of the ensemble are made for students who are on an IEP or 504. Please contact the Director of Fine and Performing Arts and Special Education.

Students enrolled in Chorus or Bella Voce may elect to take the Accelerated option to receive academic credit for advanced formal vocal study and performance. In addition to meeting all of the classroom and performance requirements of the Chorus, students enrolled in this course must study privately with an approved vocal instructor, audition for District/ Honors groups, perform in an additional vocal ensemble outside of Chorus on a regular basis, and present a formal vocal solo in a recital once a semester. Chorus Accelerated students are expected to attend one non-Needham formal concert each marking period and complete a written review of the event.

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### CONCERT CHORALE

8074

(4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** Successful completion of the audition.

Concert Chorale is open to students in grades 9-12 by audition. It is an advanced mixed vocal ensemble usually numbering between 16-20 students. Auditions for the group take place in the spring. Music studied/performed ranges from the Renaissance period through contemporary genres and is meant to challenge the most serious, advanced student singers. Chorale students may audition for District and All-State Festivals. The Chorale performs several times each year, as well as at a variety of community events and regional festivals. Public concerts are a formal part of the chorale's formal curricula and attendance at them is mandatory.

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### CONCERT CHORALE ACC

8051

(4 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** a minimum of one year of previous experience in high school chorus or department permission.

Students enrolled in Concert Chorale may elect to take the Accelerated option to receive academic credit for advanced formal vocal study and performance. In addition to meeting all of the classroom and performance requirements of the Chorus, students enrolled in this course must study privately with an approved vocal instructor, audition for District/Honors groups, perform in an additional vocal ensemble outside of Chorus on a regular basis, and present a formal vocal solo in a recital once a semester. Chorus Accelerated students are expected to attend one non-Needham formal concert each marking period and complete a written review of the event. Public concerts are a part of the chorale's formal curricula and attendance is mandatory.

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### MODERN MUSIC LABORATORY

8067

(2 credits)

Full Year

Grades 9, 10, 11, 12

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**Prerequisite:** An informal meeting with the instructor is required for enrollment.

A full year, 2 credit performance seminar focused on music of the past 50 years, including rock, rap, R&B, folk, funk, pop, and more, with a strong leaning towards current music. Students will develop collaborative skills in arranging, recording, instrumental technique, performance, and project management. ~~This course meets twice a week for the entire school year outside of normal school hours (typically Tuesday and Thursday mornings prior to the start of the school day).~~ This course will meet in the Spring Semester during the school day. Students will be required to participate in some after school events. ~~Students who are interested in enrolling in Contemporary Music Ensemble should enroll in this course.~~

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## **GUITAR ENSEMBLE**

~~8127 (4 credits) Full Year Grades 9, 10, 11, 12~~

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~~Guitar Ensemble is a full year, 4 credit class that gives students the opportunity to play guitar repertoire in a performing ensemble. This course emphasizes skill-based knowledge learned in Guitar 1 and Guitar 2 such as reading music notation, playing position, technique, strummed and plucked chords, music symbols, and playing two, three, and four part arrangements in an ensemble. Students will play on classical nylon string guitars and have a foot stand (both provided by the school). Students will participate in school concerts as well as other school and community events.~~

## **SEMESTER CLASSROOM COURSES**

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### **MUSIC Production 1 TECHNOLOGY 1: PRODUCTION & SONGWRITING**

*(2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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This course teaches students the skills and concepts needed for **contemporary** songwriting and production. They will **compose** produce original music using **computers, software, and cloud-based applications** Apple Logic Pro software, MIDI keyboards, and audio recording equipment. This course has no prerequisite and is designed for students to be successful without having any previous formal musical training.

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### **MUSIC Production 2 TECHNOLOGY 2: FILM SCORING**

*(2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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**Prerequisite:** Music Production 1 or permission of the instructor.

This course builds upon the skills and concepts taught in Music Production 1. Students will expand their use of technology and software to explore music production, including film scoring, in greater detail. By the end of this course, students will feel comfortable creating original music and bringing it to a level suitable for recording and public performance. When possible students may have the opportunity to create musical scores for visual art animations and film clips.

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**MUSIC THEORY 1**

8070

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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**Prerequisite:** the ability to read traditional music notation

This course covers the basics of music theory and ear training, including scales and modes, intervals, triads and seventh chords, harmony, non-harmonic tones, part-writing, and form and analysis. Students will use the music technology lab for ear training, music writing assignments, and drill and practice programs. Any student interested in pursuing formal music instruction at the college level should enroll in this course, in addition to their performing ensemble course.

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**AP MUSIC THEORY 2**

8075

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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**Prerequisite:** Music Theory I or permission of the instructor.

In this course, students build aural and written music skills through intensive study in ear training, sight singing, melodic and harmonic dictation, part writing, form and analysis, and score reading. Further harmonic study will focus on seventh chords, non-chord tones, secondary dominant and leading tone chords, and modulation. The emphasis in the class is on developing written and listening skills; there is much drill and practice on scales, intervals, and chords, as well as utilizing harmonic, melodic, and rhythmic dictation. Students use the music computer lab throughout the class. This course is designed to enhance preparation for the College Board's Advanced Placement Music Theory Exam given in the Spring.

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**GUITAR CLASS 1**

8125

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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This course is designed for students new to the instrument and teaches the basics of guitar playing. Students will learn to play the guitar through tuning the guitar, playing daily warm ups, technique, reading notes, learning music symbols, playing chord progressions, and establishing a steady beat. Beginning guitar students as well as students with previous experience will find the course essential to establishing a strong foundation in the instrument. Students will participate in classroom performances. School concert performance opportunities available but not required.

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**GUITAR CLASS 2**

8126

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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**Prerequisite:** Guitar Class 1 or permission of the department.

This course builds upon skills learned in Guitar Class 1. Continuation of daily warm ups, technique, reading notes,

learning music symbols, playing chord progressions, and establishing a steady beat. Students will learn more complex material and develop new skills as your guitar playing is brought to the next level. Class activities will culminate in at least one formal performance in front of an audience.

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**PIANO LAB 1 (8135):**

8135

(2 credits)

Semester

Grades 9, 10, 11, 12

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Piano Lab 1 is designed for students new to the instrument and teaches the basics of piano playing. Students will learn about technique, melody, accompaniment, music reading, and music symbols. Students will read exercises, partner songs, solo repertoire, playing by ear, and be introduced to improvisation. Students will play on electric keyboards. Students will participate in classroom performances. School concert performance opportunities available but not required.

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**PIANO LAB 2**

8136

(2 credits)

Semester

Grades 9, 10, 11, 12

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**Prerequisite:** Piano Lab 1 or permission of the Department.

Piano Lab 2 builds upon skills learned in Piano Lab 1. Students will learn about more complex technique, melody, accompaniment, music reading, and music symbols. Students will read exercises, partner songs, solo repertoire, playing by ear, and be introduced to improvisation. Students will have the opportunity to learn well-known, established repertoire on the piano from classical to contemporary. Students will play on electric keyboards. Students will participate in classroom performances. School concert performance opportunities available but not required.

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**ACTING & IMPROVISATION**

8166

(2 credits)

Semester

Grades 9, 10, 11, 12

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This course, open to all students, provides practice for actors in voice, movement and performance using scenes from a variety of plays, as well as improvisation and mime. Students learn skills of projection and characterization by performing and critiquing scenes from plays and by developing original characters in specific settings. Emphasis in this course is on acting technique, scene analysis, and directing principles. Students will refine their skills by studying, analyzing and performing a wide variety of scenes representing multiple genres of theatrical style and craft. Class activities will culminate in one formal production or presentation in front of an audience.

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**INTRODUCTION TO THEATRE**

8167

(2 credits)

Semester

Grades 9, 10, 11, 12

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This course is for students interested in a broad overview of theater. This course introduces students to a variety of elements and principles used in the process of theater production and provides opportunities for students to experience performance aspects in class. The class will also provide a technical overview of producing a play, including business management. This course will help students interested in pursuing theater after high school by

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allowing students to learn about the many facets of theater. There is no formal performance requirement for an audience for this course.

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**THEATRICAL CONSTRUCTION & DESIGN**

8165

(2 credits)

Semester

Grades 9, 10, 11, 12

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Theatrical Construction & Design is a class which provides an opportunity for students to explore and create the design for a theatrical set. Students will engage in the processes of both designing and building a set, lighting and sound design and all other aspects of theatrical production often using one the high school theatrical productions as the working example. This class will run only in the Spring Semester.

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 **ADVANCED ACTING STUDY**

8168

(2 credits)

Semester

Grades 9, 10, 11, 12

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**Prerequisite: Acting and Improvisation**

This semester based course is for students who have completed Acting and Improvisation and are interested in participating in a fully produced play that will be performed in front of an audience (outside of school hours) or at an adjudicated theater festival. Students will learn advanced acting techniques and will further develop their skills in character development and performance.

## MATHEMATICS

Num	Length	Credit	Course	Num	Length	Credit	Course
2023	F	4	Integrated Math 9	2332	F	4	Statistics Hon
2033	F	4	Math 9 CP	2333	F	4	Fundamentals of Calculus and Statistics
2022	F	4	Math 9 Hon	2475	S	2	Critical Thinking in Math
2042	F	4	Math 9IP	2613	S	2	Principles of Accounting
2021	F	4	Math 9 Acc	2615	S	2	Personal Finance
2113	F	4	Algebra 2 CP	2489	S	2	Robotics
2122	F	4	Algebra 2 Hon	2466	S	2	Engineering Design 101
2013	F	4	Geometry CP	2467	S	2	Computer Aided Design and Manufacturing
2082	F	4	Geometry Hon	2482	S	2	Introduction to computer Science
2091	F	4	Geometry Acc	2476	S	2	Computer Programming Fundamentals
2043	F	4	Integrated Math 10	2488	S	2	AP Computer Science Principles
2052	F	4	Math 10IP	2490 2496	F/S	4/2	Junior/Senior STEM Capstone 2cr
2134	F	4	Contemporary Applied Mathematics	2311	F	4	AP Calculus AB
2203	F	4	Pre-calculus CP	2321	F	4	AP Calculus BC
2212	F	4	Pre-calculus Hon	2331	F	4	AP Statistics
2221	F	4	Pre-calculus Acc AB	2481	F	4	AP Computer Science
2231	F	4	Pre-calculus Acc BC	0491	F	8	The Greater Boston Proj Acc
2302	F	4	Calculus Hon	2478	S	2	Data Science
2234	F	4	Multivariable Calculus				

The mathematics program at Needham High School provides a comprehensive curriculum offering all students a rich and engaging experience. The main focus of the program is on teaching important and essential mathematics

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skills necessary for problem solving. The program's aim is to allow all students to reach their fullest potential as a critical and logical thinker. The program's balanced approach works on developing skills necessary for success in today's society. Accelerated and Advanced Placement courses are designed for students who demand especially challenging academic experiences and who are comfortable working with advanced materials. Although the course content at each grade are consistent, the pace and depth are different at each level.

Students will learn and practice skills emphasized in the Massachusetts State Frameworks and the Common Core Curriculum. Additionally, throughout our curriculum, emphasis will be given to these eight Mathematical Practices identified in the Massachusetts State Frameworks and Common Core curriculum:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Graphing calculators are an essential everyday tool for learning mathematics, so students in every mathematics course will need to have a graphing calculator. The NHS Mathematics Department requires that all of our students acquire a graphing calculator on their own. The Needham High School Mathematics department uses the TI-84, TI-84 silver edition and the TI-84 color edition.

A calculator purchased at the start of a student's high school career will be useful for class work, homework, and assessments in math and science classes through all four years of high school. Additionally, students will be allowed to use a graphing calculator on MCAS, SAT, ACT, and AP exams. The Mathematics Department has a limited supply of graphing calculators that we are able to loan out to students who request one (in person) at the start of the year.

Mathematics courses at NHS also make use of a variety of web-based and software applications where relevant to the curriculum. We aim to use these applications as tools for exploration as well as a means to assess students formally and informally.

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### **MCAS Math Review:**

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MCAS Math Review is for students who score within the Not Meeting Expectations or Partially Meeting Expectations range on the grade 8 MCAS exam. Students will be invited to enroll in this small group instructional program. The intent of the course is to help students bring their math up to an appropriate level. This course is taken in addition to a regular math course. The course relies on grant funds and will run provided adequate funding is received. The school will assign students to this course.

# MATH COURSES

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## INTEGRATED MATH 9

2023

(4 credits)

Full Year

Grade 9

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Integrated Math 9 will take an integrated approach to the study of Algebra and Geometry, with an emphasis on Algebra. This course is aligned to the Massachusetts Curriculum Frameworks and will prepare students for the Grade 10 MCAS Mathematics Exam. This course supports all students as they develop and strengthen computational fluency and develop conceptual understanding of the connections between algebra and geometry. Students will learn through discovery and application, developing and reinforcing the skills and strategies needed to break down complex problems. Topics in this course include, yet are not limited to: number sense and operations, graphing linear functions, linear equations and their application, and coordinate geometry. Graphing calculators will be used throughout the course.

---

## MATH 9

2033, 2022, 2021

(4 credits)

Full Year

Grade 9

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**Prerequisites:** Accelerated: Demonstrates strong content knowledge in Math 8 (Algebra 1). Honors & College Prep: successful completion of Math 8 concepts and skills or a course in Algebra 1.

Math 9 will formalize and extend the mathematics that students learned in Math 8. Students will study and contrast different types of functions including absolute value functions, piecewise-defined functions, quadratic functions, polynomial functions, exponential functions, logarithmic functions, and rational functions. In each unit, students will graph, analyze, solve problems, and apply these functions in a variety of settings. Beyond functions, students will further their understanding of laws of exponents, explore circles and other conic sections from algebraic and geometric perspectives. Students will also use descriptive statistics to summarize, represent, and interpret one-variable and two-variable data involving categorical or quantitative variables, with an emphasis on linear modeling and regression. Graphing calculators will be used throughout the course.

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## MATHEMATICS 9IP

2042

(4 credits)

Full Year

Grade 9

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**Prerequisites:** Successful completion of Math 8 learning goals and teacher recommendation or a course in Algebra 1.

Students who choose this course must also sign up for Biology 9IP, English 9IP, and World History 9IP. The approach to interdisciplinary mathematics will deepen and extend the concepts from Mathematics 8 while encouraging collaboration and project-based learning. The scope of the course will mirror the Math 9 honors curriculum which centers around graphical, numerical, and algebraic representations of a variety of functions (linear, quadratic, polynomial, exponential, radical, and rational). This course draws explicit connections to the other 9IP subjects using a project-based learning approach to the interdisciplinary themes of Observations and

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Patterns, Systems, Power and Influence, Disease; and Revolutions. This course will also prepare students with the mathematical foundations for Geometry and Precalculus. Graphing calculators will be used throughout the course.

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**ALGEBRA 2**

2122, 2113 (4 credits)

Full Year

Grade 11

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**Prerequisites:** Successful completion of Integrated Math 10 and teacher recommendation or a course in Algebra 1

Algebra 2 takes a graphing, algebraic and numerical approach to the study of functions. Students will study and contrast different types of functions including absolute value functions, piecewise-defined functions, quadratic functions, polynomial functions, exponential functions, logarithmic functions, and rational functions. In each unit, students will graph, analyze, solve problems, and apply these functions in a variety of settings. Beyond functions, students will further their understanding of laws of exponents to square and cube roots. Other concepts in the course may also include sequences and series and selected topics in probability and statistics. Graphing calculators will be used throughout the course.

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**INTEGRATED MATH 10**

2043 (4 credits)

Full Year

Grade 10

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**Prerequisites:** Successful completion of Integrated Math 9

Integrated Math 10 will take an integrated approach to the study of Algebra and Geometry with an emphasis on Geometry. Math 10 Integrated blends the study of Algebra and Geometry and is a continuation of Math 9 Integrated. This course is aligned to the Massachusetts Curriculum Frameworks and will prepare students for the Grade 10 MCAS Mathematics Exam. Students will learn the skills they need to break down multistep problems and demonstrate their knowledge in various algebraic and geometric situations. Throughout the course, connections between algebra and geometry will be emphasized. Course topics include extending the number system; further study of linear relationships, descriptive statistics, area, volume, congruence, similarity, quadrilaterals, coordinate geometry and circles.

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**GEOMETRY**

2091, 2082, 2013 (4 credits)

Full Year

Grade 10

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**Prerequisites:** Accelerated: Strong content knowledge and completion of Math 9 Accelerated. Honors: Strong content knowledge and completion of Math 9 Honors. College Prep: Strong content knowledge and completion of Math 9 College Prep or teacher recommendation

Geometry uses both an investigative and a deductive reasoning approach to the study of plane, solid, and coordinate geometry. Students at all levels will study straight-line figures, circles, transformations, right triangle trigonometry, area, volume, similarity, and proof. The emphasis on proof will vary by level. Geometry software

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and web-based applications are used throughout the year to allow students to investigate geometric principles.

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**MATHEMATICS 10IP**

2052

(4 credits)

Full Year

Grade 10

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**Prerequisites:** Successful Completion of Math 9IP, Math 9, or a course in Algebra II.

Students who choose this course must also sign up for Physics 10IP, English 10IP, and World and America 10IP. The approach to interdisciplinary mathematics will deepen and extend the concepts from Mathematics 9 while encouraging collaboration, presentation skills, and project-based learning. The scope of the course will mirror the Geometry honors curriculum which centers around both an investigative and a deductive reasoning approach to the study of plane, solid, and coordinate geometry. Students will study straight-line figures, circles, transformations, right triangle trigonometry, area, volume, and similarity while making connections to the other 10IP courses using a project-based learning approach to the interdisciplinary themes including Making an Argument, Relationships & Change, and Force. The emphasis on proof will connect directly to the communication skills and terminology to the other 10 IP subjects This course will prepare students with the mathematical foundations for Precalculus. Graphing calculators will be used throughout the course.

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**CONTEMPORARY APPLIED MATHEMATICS**

2134

(4 credits)

Full Year

Grades 11, 12

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**Prerequisites:** Successful completion of Math 9 or Algebra II

Contemporary Applied Mathematics will allow students the opportunity to reinforce learning of core high-school-level mathematics for college and career readiness. Students will learn the application of mathematics to the social sciences in today's world along with exploring topics in discrete mathematics. Throughout the course, all students will have the opportunity to strengthen their proficiency and fluency in all aspects of algebra. Students are required to have a graphing calculator as they will be used throughout the course

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**PRECALCULUS**

2203, 2212

(4 credits)

Full Year

Grade 11

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**Prerequisites:** Strong content knowledge and completion of Math 9 and Geometry.

Precalculus is an extension of topics introduced in Math 9 or Algebra II. The course is designed to strengthen and broaden students' mathematical skills in order to prepare them for a course in calculus. Units of study in this course will allow students to develop their understanding of general concepts regarding functions. Students will also expand their knowledge of Trigonometry and be introduced to beginning topics of calculus such as limits. Students are required to have a graphing calculator as they will be used throughout the course.

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**PRECALCULUS ACC--AB**

2221

(4 credits)

Full Year

Grades 10, 11

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**Prerequisites:** Strong content knowledge and completion of Math 9 and Geometry, preferably at the Accelerated level.

Precalculus–AB is an accelerated course and includes units of study required to prepare students to take AP Calculus AB. Units of study in this course include analysis of various functions, discrete mathematics, conic sections, and an extensive study of trigonometry. Beginning topics in calculus are also covered including limits and an introduction to the derivative. Students are required to have a graphing calculator as they will be used throughout the course.

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**PRECALCULUS ACC--BC**

2231

(4 credits)

Full Year

Grades 10, 11

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**Prerequisites:** Strong content knowledge of and completion of Math 9 and Geometry, preferably at the Accelerated level.

Precalculus-BC is an accelerated course and includes units of study required to prepare students to take AP Calculus BC. Units of study in this course include analysis of functions, discrete mathematics, operations with complex numbers, analytic geometry, and an extensive study of trigonometry. Beginning topics in calculus are also covered including limits and techniques of differentiation. Students are required to have a graphing calculator as they will be used throughout the course.

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**FUNDAMENTALS OF CALCULUS & STATISTICS**

2333

(4 credits)

Full Year

Grade 12

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**Prerequisites:** Successful completion of Precalculus CP or Precalculus Honors

Fundamentals of Calculus and Statistics focuses on introducing students to essential concepts of Calculus and introducing students to central topics in Statistics. Units of study in this course include limits, derivatives, anti-derivatives and their applications. This course will also serve as an introductory course to statistics, which provides students the opportunity to learn statistical concepts, explore statistical properties, and apply statistical techniques in a real-world setting. Students are required to have a graphing calculator as they will be used throughout the course.

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**CALCULUS HON**

2302

(4 credits)

Full Year

Grade 12

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**Prerequisites:** Strong content knowledge and completion of Precalculus Honors or successful completion of Precalculus Accelerated

Calculus is an honors course which focuses on the understanding of Calculus using numeric, algebraic and graphical approaches. Units from differential and integral calculus provide the main themes, however some time

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will be taken to master topics not adequately studied in precalculus. Included are topics of differentiation techniques, integration techniques and differential equations. Along with the theoretical aspects of Calculus, practical applications such as business, the behavioral sciences, the social sciences, Biology, Chemistry and Physics will be emphasized. Students are required to have a graphing calculator as they will be used throughout the course.

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**AP CALCULUS AB**

2311

*(4 credits)**Full Year**Grades 11, 12*

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**Prerequisites:** Strong content knowledge and completion of Precalculus Accelerated AB, successful completion of Precalculus Accelerated BC, or mastery of Precalculus Honors learning goals with teacher recommendation. \*Additional summer work may be required for students who have not taken Accelerated Pre- Calculus (AB or BC).

AP Calculus AB includes differential and integral calculus. The course closely follows the curriculum set by the College Board. Students are expected to take the AP-AB exam and may place out of or receive college credit for one semester of Calculus. Students are required to have a graphing calculator as they will be used throughout the course.

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**AP CALCULUS BC**

2321

*(4 credits)**Full Year**Grades 11, 12*

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**Prerequisites:** Strong content knowledge of and completion of Precalculus Accelerated BC learning goals or mastery of Precalculus AB\* learning goals with teacher recommendation. \*Additional summer work may be required for students who have not taken Accelerated Precalculus BC.

AP Calculus BC includes a rigorous and extensive treatment of Calculus and Analytic geometry. The course closely follows the curriculum set by the College Board and the content of the course parallels the year's course now given in many colleges and universities. Students are expected to take the AP-Calculus exam and may be able to place out of or receive college credit for a year of Calculus. Students are required to have a graphing calculator as they will be used throughout the course.

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**STATISTICS HON**

2332

*(4 credits)**Full Year**Grades 11, 12*

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**Prerequisites:** Successful completion of Math 9/ Algebra II Honors or successful completion of Precalculus.

Statistics is an honors course that serves as an introduction to data collection and data analysis. The course will expose students to statistical applications that they will likely see in other classes in high school and in future college courses. Specific topics include data collection and display, regression, probability, statistical inference, and an introduction to the most common distributions and statistical tests. Students are required to have a graphing calculator as they will be used throughout the course.

**AP STATISTICS**

2331

*(4 credits)**Full Year**Grades 11, 12*

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**Prerequisites:** Strong content knowledge and completion of Math 9 or Algebra II Honors, or successful completion Precalculus Honors/ Accelerated AB/Accelerated BC.

AP Statistics serves as an introduction to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students will be exposed to four broad conceptual themes: 1) Exploring Data: Observing patterns and departures from patterns; 2) Planning a Study: Deciding what and how to study; 3) Anticipating Patterns: Producing models using probability and simulation and 4) Statistical Inference: Confirming models. Students who successfully complete the course and the advanced placement examination may receive credit and/or advanced placement for a one-semester introductory college statistics course. Students completing this course are expected to take the Advanced Placement examination. Students are required to have a graphing calculator as they will be used throughout the course.

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**CRITICAL THINKING IN MATH**

2475

*(4 credits)**Full Year**Grade 12*

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**Prerequisites:** 3 years of high school math.

Critical Thinking in Math is an open-ended one-semester math course. It is designed to explore a wide variety of topics in mathematics with students who have completed three years of mathematics. This is a “hands-on” course, incorporating group projects using manipulatives, the calculator, and the computer.

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**INTRODUCTION TO COMPUTER SCIENCE**

2482

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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**Prerequisites:** Successful completion of Math 8.

Introduction to Computer Science uses the nationally recognized Exploring Computer Science (ECS) Curriculum. This semester course is designed to introduce students to the breadth of the computer science field through an exploration of engaging and accessible topics. Rather than focusing the entire course on learning particular software tools or programming languages, the course is designed to focus on the conceptual ideas of computing and help students understand why certain tools or languages might be utilized to solve particular problems. The goal of Exploring Computer Science is to develop in students computational practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today’s students. The course covers the first four units of the ECS curriculum: Unit 1 Human Interaction, Unit 2 Problem Solving, Unit 3 Web Design, and Unit 4 Introduction to Programming and requires the students to complete a capstone project.

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**AP COMPUTER SCIENCE**

2481

*(4 credits)**Full Year**Grades 10, 11, 12*

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**Prerequisites:** Priority for enrollment will be given to students who have successfully completed Introduction to Computer Science, Fundamentals of Computer Science or AP CS Principles. Additionally, students are encouraged to have successfully completed Precalculus or have concurrent enrollment in Pre-calculus.

AP Computer Science is comparable to a first year college course in computer science, and is designed to prepare the student for the AP Computer Science exam. The Java programming language will be used. The course will focus on algorithm development, using concepts such as classes, linked lists, stacks, recursion, queues, trees, searching, hashing, and inheritance. It is recommended that students have access to a computer (not ChromeBook) at home when taking this course. Priority for enrollment will be given to students in their junior and senior year and for students who have taken a Computer Science course at Needham High School.

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### AP COMPUTER SCIENCE PRINCIPLES

2488

(4 credits)

Full Year

Grades 10, 11, 12

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**Prerequisites:** Successful completion of Math 9. Additionally, having had the Introduction to Computer Science course is recommended or a comparable course experience.

AP Computer Science Principles provides an introduction to programming and the basic principles that underlie the field of computer science. The programming portion of the course focuses on algorithms, abstraction, and the logic behind programming languages. The principles portion of the course focuses on how computers and the internet work and how technological advances are affecting society, culture, and the economy. The AP test consists of a multiple choice exam as well as a portfolio component. For the portfolio tasks, students design their own program and research and report on the benefits and potential drawbacks of a new technological advance. Priority for enrollment will be given to students in their junior and senior year and for students who have taken a Computer Science course at Needham High School. The course closely follows the curriculum set by the College Board.

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### ROBOTICS I

2489

(2 credits)

Semester

Grades 10, 11, 12

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**Prerequisites:** Successful completion of Math 9 or departmental permission. Additionally, successful completion of Introduction to Computer Science or equivalent.

Robotics I is a one-semester hands-on course that will introduce students to the engineering design process through robotics. Students will be assigned challenges that will be solved by building robots to perform given tasks. Students will learn about mechanical design, software design, and electrical components. Students will also learn about actuators and sensors, and how to effectively use them when building a robot. The equipment used for the course will remain in the classroom and as such students may need to complete some of their work after school. No programming or engineering background is required. When the schedule allows, students in Robotics 1 will collaborate with students in Introduction to Sculpture for an interdisciplinary Kinetic Sculpture Unit.



**PERSONAL FINANCE**

2615

*(2 credits)**Semester**Grades 10, 11, 12*


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Personal Finance is designed to provide students with the confidence and knowledge to successfully navigate the financial decisions they will face as young adults after high school graduation. Topics include budgeting, banking, credit and loans, taxes, insurance, and investing. Assignments aim to prepare students to identify and evaluate trade offs in financial decisions such as choosing a college, car, or apartment. Students will also visit local businesses to enhance their learning through meetings with professionals. Priority for enrollment will be given to students entering their junior or senior year.

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**PRINCIPLES OF ACCOUNTING**

2613

*(2 credits)**Semester**Grades 9, 10, 11, 12*


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**Prerequisites:** Successful completion of Math 9/Algebra 2

Principles of Accounting presents the principles of financial accounting and gives students insight into the language of business. Students will learn how businesses fund their operations and how business decisions impact the bottom line. Students will learn how to create journal entries and then how to build and interpret balance sheets, income statements, and statements of cash flows. Students will learn to evaluate and analyze critical ratios to better understand the health of businesses.

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**INTEGRATED SENIOR STUDIES ACC: THE GREATER BOSTON PROJECT**

0491

*(4 credits)**Full Year**Grade 12*


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This course explores how individuals and groups have worked throughout history to effect change in Greater Boston. Students will look at various historical moments through a variety of different lenses - population, government, economy, education, and arts & leisure - and consider how these have molded what Greater Boston has become today. The course of study is expressly interdisciplinary, as skills from the disciplines of English, history, and mathematics are brought together to explore Greater Boston's past and present. The course culminates in the Community Action Project, which entails collaborative exploration into and analysis of at least one area of study from the course; the project allows students to become agents of change as they work to develop, propose, present, and possibly implement their resolutions to existing real-world problems. This is a double block, eight credit course that fulfills the senior year English requirement.

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**JUNIOR/SENIOR STEM CAPSTONE**

2490

*(4 credits)**Full Year**Grades 11, 12*

2496

*(2 credits)**Semester**Grades 11, 12*


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Junior/Senior STEM Capstone is an independent Study course and is designed to give the self-motivated student or a small group of students the opportunity to work on a significant project of their design during school hours. Students will utilize the Da Vinci Workshop and will be expected to perform work beyond the school day. Options for learning range from scientific research and engineering projects, to work as part of scientific competitions and

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service learning community action projects, to other approved projects. In this course, students will write a proposal for their work, produce their results and present their work publicly in a manner agreed upon with the instructor. Prerequisites: Two teacher references that support the student's ability to work independently. Please Note: It is recommended/strongly encouraged that students do group projects. Any junior or senior is encouraged to take this course even if you are undecided about a project. Students can meet with the instructor to generate some project ideas.

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### COMPUTER AIDED DESIGN AND MANUFACTURING

2467

(2 credits)

Semester

Grades 11, 12

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**Prerequisites:** Successful completion of Math 9 and Physics.

Computer Aided Design and Manufacturing is a semester course in which students will learn the basics of Computer Aided Design using modern design software packages. Students will learn how to model ideas for parts and assemblies on the computer similar to the way this is done in industry. Students will learn about additive and subtractive manufacturing processes, and practice creating their designs using equipment in the Da Vinci Workshop, such as a 3D printer, laser cutter, or milling machine. Students will be expected to create a culminating project. This course may require a materials fee.

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### ENGINEERING DESIGN 101

2466

(2 credits)

Semester

Grades 10, 11, 12

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**Prerequisites:** Successful completion of Math 9 and current enrollment in Physics.

Engineering Design 101 is a semester course. This course is for students interested in learning more about engineering or are thinking about pursuing a career in Engineering or related areas. Students will learn about the tools, methods, materials, and processes used by engineers. This class will simulate the university engineering experience by giving students exposure with various aspects of the engineering profession. This course will proceed as a project based learning class involving several different engineering disciplines including: electrical, mechanical and structural. As students advance through the different units they will learn problem solving, critical thinking, design skills, 3D modeling as well as other skills that are vital to becoming a successful engineer.

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### COMPUTER PROGRAMMING FUNDAMENTALS

2476

(2 credits)

Semester

Grades 10, 11, 12

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**Prerequisites:** Successful Intro to Computer Science (2482 )or Department Chair approval.

Computer Programming Fundamentals is a semester course. Students will expand the computer science knowledge acquired in Introduction to Computer Science (course 2482) as well as develop or expand their computer programming skills. The course will use a contemporary programming language for students to grow their computer programming skills.

## MULTIVARIABLE CALCULUS

2234

(4 credits)

Full Year

Grade 12

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**Prerequisites:** Successful completion of AP Calculus (AB or BC). Students who have completed a course in AP Calculus AB wishing to take multivariable calculus will be required to complete assignments after the AP exam to prepare for the course.

Multivariable Calculus is a post-AP Calculus elective course that is designed for students who are interested in furthering their understanding of calculus topics and their applications. The course extends the concepts of calculus to the study of real-valued functions of more than one variable and to vector-valued functions of one or more variables. Topics include partial derivatives, gradients, optimization, multiple integrals, and vector fields. How do we maximize a function of many variables subject to a number of constraints? What does it mean to integrate a function of many variables, or a function with vector outputs, over a region of space? How does a local point-measure like density “add up” to give a function of a solid region of space, like mass? How do we find the volume of a k-dimensional prism in n-dimensional space? Learn the answers to all these questions and many others in our full-year elective, Multivariable Mathematics.

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## DATA SCIENCE

2478

(2 credits)

Semester

Grades 9, 10, 11, 12

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Exploring data and data science is increasingly becoming an important component in many fields of study including, mathematics and science along with business, humanities and the social sciences. Data Science is a semester elective course for all students who would like to explore our world through data. Students will work collaboratively and be introduced to the main ideas in data science through the use of such tools as Google Sheets, Python, Data Commons, and Tableau. Students will learn to be data explorers in project-based units, through which they will develop their understanding of data analysis, sampling, correlation/causation, bias and uncertainty, probability, modeling with data, making and evaluating data-based arguments, the power of society and more. As part of their work students will create a portfolio of their data science work.

## **MEDIA**

Num	Length	Credit	Course	Num	Length	Credit	Course
8456	S	2	Internship with Technology Help Desk	8498	S	2	Digital Game History & Design
8490	S	2	Television Communications 1	8411	F	4	AP Capstone Seminar
8495	S	2	Television Communications 2	8411	F	4	AP Capstone Research
8486	S	2	Television Production	8597	S	2	Social Media for Social Change
8596	S	2	Digital Media in Reporting				

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### **INTERNSHIP WITH TECHNOLOGY HELP DESK**

*8456*

*(2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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Prerequisite: interview with a technology specialist.

This help desk model course will give students a background in technical support at Needham High School. Students will be introduced to common tech problems and develop solutions in the following areas: computer software, hardware, television production, audiovisual hardware and software, and web design. Technology Leaders will assist staff and students with troubleshooting and other supports as needed. When not assisting students and staff, tech leaders will work on their independent learning project of their choosing. They will also be actively contributing to an educational technology blog. Because of the nature of the experience it will be limited to 2 students per period. This opportunity is available for the full year or a semester.

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### **TELEVISION COMMUNICATIONS 1**

*8490*

*(2 credits)*

*Semester*

*Grades 9, 10, 11, 12*

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This course is designed to enable students to learn television production skills in a hands-on team environment. Students will learn to use video as an effective form of communication and look critically at television productions to critique the medium. This includes learning to operate equipment in the television studio, working as a member of a team and serving as a crew member for productions. Students will write scripts and direct individual and team projects. The course will provide an opportunity for you to create a variety of video productions (newscasts, public service announcements, advertisements, etc.), while developing the ability to form story ideas and effectively translate these ideas into videos using Final Cut. This course may also be used for two of the FPA graduation credits, provided the student's body of work in the course shows evidence of meeting at a satisfactory level the Creating, Responding and Performing Standards of the FPA Department.

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**TELEVISION COMMUNICATIONS 2**

8495

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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**Prerequisite:** Television Communication I

This course is designed to enhance television production skills. Students should have a background in how to use studio/field equipment, and will be focusing on increasing skills and creativity to design a more involved production. In addition to using Final Cut as an editing tool, you will learn to create graphics using Motion. The course will also focus on students creating a mini-documentary that adheres to television industry standard guidelines of digital citizenship and fair use. This course may also be used for two of the FPA graduation credits, provided the student's body of work in the course shows evidence of meeting at a satisfactory level the Creating, Responding and Performing Standards of the FPA Department.

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**DIGITAL MEDIA IN REPORTING**

8596

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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This course is designed for students who wish to examine and apply the ways in which news is reported. Students will learn journalistic techniques, how to critically examine news sources, further their own understanding of how to gather information, and tell stories through written words, podcasts, video, infographics, and social media. Students will also examine their ethical role as a creator throughout this course. This course may also be used for two of the FPA graduation credits, provided the student's body of work in the course shows evidence of meeting a satisfactory level of the Creating, Responding, and Performing Standards of the FPA Department.

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**SOCIAL MEDIA FOR SOCIAL CHANGE**

8597

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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This course is designed for students to explore and understand how to utilize social media platforms to promote social change. During this course we will discover how social media platforms develop and how they are maintained as technology changes. We will also be learning how to best communicate digitally using social media platforms. This is a hands-on class where students will be thinking critically and be creating a social media campaign for a topic of interest.

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**DIGITAL GAME HISTORY & DESIGN**

8498

*(2 credits)**Semester**Grades 9, 10, 11, 12*

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This course is designed to give students an overview of digital games and game development. Students will learn about gaming history, game design, storytelling, and the psychological and sociological aspects of games and gaming. The technology behind consoles, computers, arcades, and mobile gaming platforms will be covered as well. Students will use this knowledge to examine trends to provide their own answer to the question, "What is

the future of digital games and how do emerging technologies fit in?” The culminating project of this class will be **the creation of a computer video** game using Twine and components of HTML, CSS, and Javascript. Prior videogame experience and coding is recommended but not required. Topics covered include: history of video game creation, basic video game design process, storytelling and world building, gaming technology, sociology, and trends, student created games.

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### TELEVISION PRODUCTION

8486

(2 credits)

Semester

Grades 9, 10, 11, 12

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**Prerequisite:** Television Communication I

This course is designed to enhance television production skills in a real world setting. Students should have a background in how to use studio equipment, and will be focusing on increasing skills and creativity to design a more involved production. Students will act as a high school television production house, creating television episodes to air on The Needham Channel. Students will investigate series television and create their own ideas for an ongoing series. Students will pitch their concepts to the rest of the class and a show will be selected for production. After pitching a show idea to the teacher and to a representative from the Needham Channel, students will work to produce a total of six 30-minute episodes. The class will operate under professional procedures to get their shows ready for air at The Needham Channel.

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### AP CAPSTONE SEMINAR

8411

(4 credits)

Full Year

Grades 10, 11

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**Prerequisites:** teacher recommendation, preference given to sophomores and juniors.

AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world issues. Using an inquiry framework, students practice analyzing and interpreting articles, research studies, literary and philosophical texts, speeches, broadcasts, personal accounts, and artistic works. Students learn to synthesize information from multiple sources, develop their own perspectives in research-based written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments. This course is year one of the two-year AP Capstone Diploma Program and students are encouraged to enroll in AP Research at the completion of this course.

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### AP CAPSTONE RESEARCH

8412

(4 credits)

Full Year

Grades 11, 12

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**Prerequisites:** successful completion of AP Seminar.

AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long, research-based investigation to address a

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research question. In the AP Research course, students further refine their skills acquired in the AP Seminar including research methodology, ethical research practices, and accessing, analyzing, and synthesizing information as they address a research question. Students document their processes and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of 4000–5000 words, accompanied by a performance or exhibition of product where applicable, and a presentation with an oral defense. This course is year two of the two-year AP Capstone Diploma Program.

## MEDIA FACILITIES

Students and staff have many resources available, both physical and digital. Teachers may schedule their classes to work on projects in the Library, Multimedia Lab (409), or the Television Studio. Students may work independently in the Library before and after school or during study periods. The NHS Library web pages offer many tools for research, including the web catalog, databases, citation help, and pathfinders for class projects. NHS has a wireless network and mobile computing devices available to students who have signed the Responsible Use Policy. Please refer to the Student Handbook for more information.

## SCIENCE

Num	Length	Credit	Course	Num	Length	Credit	Course
3001	F	4	Biology Acc	3502	F	4	Modern Physics Hon
3012	F	4	Biology Hon	3542	F	4	Experiencing Chemistry Hon
3022	F	4	Biology 9IP	3531	F	4	Environmental Science Acc
3023	F	4	Biology	3532	F	4	Environmental Science Hon
3101	F	4	Physics Acc	3533	F	4	Environmental Science CP
3112	F	4	Physics Hon	3642	F	4	Marine Science Hon
3032	F	4	Physics 10IP	3701	F	8	AP Biology
3123	F	4	Physics	3801	F	8	AP Physics
3201	F	4	Chemistry Acc	3901	F	8	AP Chemistry
3212	F	4	Chemistry Hon	2490	F	4	Junior/Senior STEM Capstone
3223	F	4	Chemistry	2496	S	2	Junior/Senior STEM Capstone
3401	F	4	Physiology Acc	3610	S	2	Introduction to Astronomy
3412	F	4	Physiology Hon	3608	S	2	BioTech Promoters
3665	F	4	Geology	3609	S	2	Combating Digital Misinformation

The aim of the Science program is to ensure students develop a scientific perspective with which to observe, analyze, and make decisions about the world around them. In order to realize this goal, the department offers a carefully sequenced curriculum that focuses on mastery of disciplinary core ideas and the application of science practices. Science offerings in grades 9, 10, and 11 provide foundational knowledge in Biology, Physics, and Chemistry, while elective offerings provide a wide range of opportunities for students to integrate and deepen their understanding of concepts within and across the major disciplines. A range of levels allow teachers to offer consistent course content with differentiated pace, depth, and levels of support. The essential role of collaboration within the STEM fields is reflected in both the teaching approach and student learning expectations within courses throughout the department. Concepts and skills in each course align with the [Massachusetts Science and Technology/Engineering Standards](https://www.doe.mass.edu/frameworks/scitech/2016-04.pdf) (<https://www.doe.mass.edu/frameworks/scitech/2016-04.pdf>). Additionally throughout our curriculum, the eight Science Practices identified in the Massachusetts State Frameworks are emphasized:

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1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations and designing solutions
7. Engaging in an argument from evidence
8. Obtaining, evaluating, and communicating information

Twelve credits, 3 years, of science are required for graduation.

**Notice to Parents of Students Taking Biology or Physiology:** Biology and Physiology courses include issues of human sexuality.

*Under Massachusetts law and Needham School Committee policy, you may exempt your child from any portion of the curriculum that involves human sexual education or human sexuality issues. To receive an exemption, simply send a letter addressed to your building principal requesting an exemption for your child. Any student who is exempted will be excused from those lessons that cover topics on human sexuality and will be provided with an alternative assignment. A student who is exempted from this portion of the curriculum will not be penalized in any way.*

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**BIOLOGY: ACCELERATED, HONORS, COLLEGE PREP**

3001, 3012, 3023

(4 credits)

Full Year

Grade 9

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The Biology curriculum focuses on topics related to living organisms including structures and processes from a molecular level to the level of a complete organism, ecosystem dynamics and interactions, inheritance and variation of traits, and unity and diversity of biological evolution. The curriculum is aligned with the Massachusetts High School Life standards and practices. Detailed descriptions of the learning standards can be found at <http://www.doe.mass.edu/stem/standards/StandardsDraft.pdf>.

Thematic links are used to introduce and weave the concepts of Biology together. These themes include: Homeostasis, Organization, Unity and Diversity, Structure meets Function, and Transfer of Energy and Matter. The curriculum incorporates a significant emphasis on the practices of science including an introduction to laboratory equipment, procedures, and science writing skills. All levels of the ninth grade curriculum serve to prep our students for the MCAS exam in June while incorporating real world applications of Biological concepts.

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**BIOLOGY 9IP**

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Students who choose this course must also sign up for English 9IP, Math 9IP, and World History 9IP. The biology curriculum focuses on topics related to living organisms, including structures and processes from a molecular level to the level of a complete organism, ecosystem dynamics and interactions, inheritance and variation of traits, and unity and diversity of biological evolution. Biology 9IP will align with the content taught in an honors biology course and will prepare students for the MCAS exam in June. The real world applications and science practices will be taught by making explicit connections to the other 9IP subjects using a project-based learning approach to the interdisciplinary themes of Observations and Patterns, Systems, Power and Influence, Disease; and Revolutions. Students will be analyzing data from various sources and will learn to develop their communication and collaboration skills that cross disciplines. The curriculum will also emphasize the practices of science, including an introduction to laboratory equipment, procedures, and science writing skills.

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**PHYSICS: ACCELERATED, HONORS, COLLEGE PREP**

3101, 3112, 3123

(4 credits)

Full Year

Grade 10

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Physics is the study of the behavior of matter and energy. The physics program uses “hands on” science practices to introduce and support the physical laws of nature including motion, forces, energy, momentum, sound, light, electricity, magnetism, and atomic structure. Understanding of concepts is reinforced through modelling of physical and natural phenomenon, investigations and problem solving. Using 21st century technology and equipment, students will gather and analyze data related to real world situations including sports, technology, and the environment. While mathematical skills are the foundation of application within the physics program, students work to utilize, discuss, and explain physical concepts and problems with scientific fluency . The accelerated level uses algebra and trigonometry in multi-step problem solving, the honors level uses algebra to develop problem solving skills, and the college prep level will utilize a problem-based curriculum focussed on developing 21st century skills.

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**PHYSICS 10IP:**

3032

(4 credits)

Full Year

Grade 10

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Students who choose this course must also sign up for English 10IP, Math 10IP, and World and America 10IP. Physics is the study of the behavior of matter and energy, the physical laws of nature including motion, forces, energy, momentum, sound, light, electricity, magnetism, and atomic structure. In the 10IP program, understanding of concepts is reinforced through hands-on and project-based activities focused on modelling, investigations and problem solving while making explicit connections to the content and skills of the other 10IP courses and real world situations. Students work to utilize, discuss, and explain physical concepts and problems with scientific fluency through the interdisciplinary themes of Making an Argument, Relationships & Change, and Force, with a focus on skills around analyzing data, collaboration, presentations, and communication.

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## CHEMISTRY: ACCELERATED, HONORS, COLLEGE PREP

3201, 3212, 3223 (4 credits)

Full Year

Grade 11

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### Suggested Math Prerequisites:

- **Chemistry Accelerated (3201)** - Students should be simultaneously enrolled in either Accelerated or Honors Pre-Calculus and have earned either an A in Honors Algebra II or a C or higher in Accelerated Algebra II.
- **Chemistry Honors (3212)** - Students should be simultaneously enrolled in Honors Pre-Calculus and have earned a C or higher in Hon Algebra II.
- **Chemistry College Prep (3223)** - Students should be simultaneously enrolled in Algebra II or higher.

Chemistry examines the structure of matter, its properties, and the changes it undergoes. The major topics of chemistry include atomic structure, reactivity and bonding, energy in chemical processes, as well as the physical characteristics of chemicals. These topics are related to the essential themes of conservation, structure and function, stability and change, equilibrium, and the scientific method. Through quantitative and qualitative analysis, students will acquire an understanding of chemistry and use its concepts to explain phenomena seen in and out of the classroom. The curriculum further develops the practices of science by providing opportunities for students to design experiments to investigate chemical phenomena and scientific claims, support their findings with data, and analyze the impact of error on their conclusions.

## SCIENCE ELECTIVES -- SEMESTER

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### INTRODUCTION TO ASTRONOMY

3601

(2 credits)

Semester

Grades 11, 12

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This course highlights an introductory survey of the universe. Some of the topics covered include the solar system (the earth, moon, planets and their motion); comets, meteors, eclipses and tides; the evolution of stars, the formation of red giants, black holes, pulsars, etc.; galaxies, cosmology and extraterrestrial life. Telescopic observations on certain evenings will be available but not mandatory.

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### COMBATING DIGITAL MISINFORMATION

3609

(2 credits)

Semester

Grades 9, 10, 11, 12

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We live in an era of increasing digital complexity. Often, your choice of social media platform and the corresponding proprietary algorithms play a crucial role in determining multiple facets of the kinds and sources of information you are exposed to online. This has become increasingly apparent from the polar opposite reactions to the public health crisis brought on by the pandemic - with choices at times influenced by media consumption. What scientific information can you trust online? How do you make appropriate choices about what sources to believe? This course will explore the intersection of science and social media, with particular attention paid to recognizing misinformation presented as fact on

various digital platforms. Students will be able to develop skills to identify trusted sources of scientific information and use those trusted sources to evaluate potentially misleading statements online.

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### **BIOTECH PROMOTERS**

3608                      (2 credits)    Semester    Grades 10, 11, 12

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**Prerequisites:** Successful completion of Biology

The purpose of this course is to prepare students to lead and engage in discussions about current biotechnology methods and their application in the world. The goal of the course is to build community understanding around the practices of science with a focus in biotechnology. The course will provide the student with an opportunity to explore several hands-on laboratory protocols. Throughout the course, students will review the fundamentals of cell and molecular biology and then use this knowledge to understand the science involved in the techniques. In addition, this course is designed to be interdisciplinary, integrating science with Portrait of a Graduate: Communication and Collaboration skills. At the end of the course, students will demonstrate their understanding of concepts by presenting public laboratory experiences for community audiences.

## **SCIENCE ELECTIVES -- FULL YEAR**

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### **PHYSIOLOGY ACC: ACCELERATED AND HONORS**

3401,3412                      (4 credits)    Full Year    Grades 11, 12

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The accelerated and honors A&P courses investigate the major concepts and ideas of human physiology. Major body systems are studied as they relate to the themes of Structure meets Function, Homeostasis, Communication and Plasticity. Understanding is built by comparing and analyzing the effects of disorders on the body. These courses are experimentally based with a strong laboratory component that incorporate aspects of Biology, Physics, Chemistry and statistical techniques. Both levels work to prepare students for the independent nature of college academics. Students will design and implement experiments to study essential structures and functions of the body. The class is largely built upon written expression of knowledge, but includes presentations building oration skills. Students are expected to work independently outside of class and within groups inside class to actively unravel the mysteries of the human body as applied to real world situations. At the accelerated level, this course is designed to mimic a college level physiology course and prepare students for the rigors of self directed study. At the honors level, this course is designed to build the foundation of skills to succeed at college level courses.

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### **MODERN PHYSICS HON**

3502                      (4 credits)    Full Year    Grades 11, 12

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**Prerequisite:** Students must have earned a passing grade in 10th grade physics to enroll in this course.

A course designed to introduce students to the major developments in physics over the past 150 years.

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The course covers the development of the photon model of light, special and general relativity, the fundamentals of quantum mechanics, nuclear physics, particle physics and cosmology. The course will emphasize an understanding of the experiments that shaped these new developments. Students will be doing hands on lab work, article analysis, problem solving, and presentations in addition to the standard lectures on the topics.

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**EXPERIENCING CHEMISTRY HON**

3542

*(4 credits)**Full Year**Grades 11, 12*

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This course takes the basic concepts learned in chemistry and biology and applies them to real-world situations such as food chemistry and nutrition, forensic chemistry, biochemistry, materials chemistry, and environmental chemistry. The course is designed to engage students in the hands-on exploration of career-relevant concepts and practices such as crime scene investigation, process development, experimental design, and hazardous and nuclear waste management. To follow up on specific interests, students will also have the opportunity to plan field trips and invite guest speakers to gain a firsthand perspective of working and living in the scientific community.

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**ENVIRONMENTAL SCIENCE**

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*(4 credits)**Full Year**Grades 11, 12*

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**Suggested Math Prerequisites:**

**Accelerated Level (3531):** Advanced math skills (strong foundation from accelerated or honors pre-calculus)

**Honors Level (3532):** Proficient math skills (basic understanding of pre-calculus)

**College Preparatory Level (3533):** Comfortable with algebraic manipulations

This interdisciplinary course will examine the relationship between humans and the environment through significant field work. Students will explore topics of ecology, natural resources, populations, forestry, fisheries, climatology, environmental health & toxicology, environmental engineering & modeling, production & consumption of energy, and environmental policy, law, & planning. Students will be involved in a variety of citizen science initiatives and green technologies with a focus on local impact. Students will be expected to collect data using environmental field techniques, interpret this data, and propose solutions to environmental problems indicated by data. A major focus of this course is to increase students' scientific literacy to evaluate the validity and accuracy of information from media and other sources through the investigation of case studies.

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**MARINE SCIENCE HON**

3642

*(4 credits)**Full Year**Grades 11, 12*

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Marine Science is a full year course integrating the biological and physical aspects of ocean study (a holistic approach to understanding and experiencing the marine environment). Topics include marine

food chains and ecosystems, the physical factors that influence productivity in the oceans, plankton, marine plants and animals (invertebrates and vertebrates), sea water, waves, tides, ocean currents and circulation, and the geology of the ocean bottoms. Also included will be a consideration of the biological and physical resources of the oceans as they relate to humans. This course will be laboratory oriented and will include several field trips as an important means of appreciating the marine environment.

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## **GEOLOGY**

3665

(4 credits)

Full Year

Grades 11, 12

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Geology is a full year interdisciplinary course that introduces students to the fundamental principles and applications of earth science. This course has two overarching themes - (1) the physical structure and chemical makeup of earth's materials and (2) the dynamic forces and chemical processes that have shaped them over the past 4.6 billion years. Students will explore the idea of geologic time and change, investigating phenomena such as plate tectonics, volcanism, glaciation, weathering and erosion, lithification and fossilization, and coastal evolution. Students will analyze evidence to draw conclusions about earth's inception, geologic history and past climate. In addition to collecting and analyzing their own data in the lab, students will learn about various mechanisms and approaches to geologic data collection and make connections to their real-world applications. Some coursework will take place in the field to observe geologic features and landscape in situ.

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## **JUNIOR/SENIOR STEM CAPSTONE**

2490

(4 credits)

Full Year

Grades 11, 12

2496

(2 credits)

Semester

Grades 11, 12

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Junior/Senior STEM Capstone is an Independent Study course and is designed to give the self-motivated student or a small group of students the opportunity to work on a significant project of their design during school hours. Students will utilize the Da Vinci Workshop and will be expected to perform work beyond the school day. Options for learning range from scientific research and engineering projects, to work as part of scientific competitions and service learning community action projects, to other approved projects. In this course, students will write a proposal for their work, produce their results and present their work publicly in a manner agreed upon with the instructor. Prerequisites: Two teacher references that support the student's ability to work independently. Please Note: It is recommended/strongly encouraged that students do group projects. Any junior or senior is encouraged to take this course even if you are undecided about a project. Students can meet with the instructor to generate some project ideas.

## **ADVANCED PLACEMENT COURSES**

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### **AP BIOLOGY**

3701

(8 credits)

Full Year

Grades 11, 12

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This is a second year course in biology that is the equivalent of a two semester introductory course taught at most colleges and universities. This course uses a College Board approved syllabus and prepares students for the May AP Exam. The content is taught thematically with unit topics all incorporating the following Big Ideas: Evolution, Cellular Processes, Genetics and Information Transfer, Interactions. The Science Practices are an essential part of the course. Students continue to design experiments to answer questions and continue their use of data analysis by incorporating various statistical measures and using spreadsheets to analyze large data sets. The connections between Science, Technology and Society are also explored as learn to read and discuss journal articles and relate current research to the topics learned throughout the course. AP Biology is an 8 credit course and will meet 10 periods per cycle.

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**AP PHYSICS***3801**(8 credits)**Full Year**Grades 11, 12*

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This is a second year course in physics. This course is designed to prepare students for the Advanced Placement Physics C exam. Mechanics, electricity, and magnetism are covered in great depth, utilizing calculus wherever appropriate. This is an intensive course comparable to a college course for students majoring in the physical sciences or engineering. Students who have completed calculus or are currently enrolled in the calculus program may elect Physics AP. AP Physics is an 8 credit course and will meet 10 periods per cycle.

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**AP CHEMISTRY***3901**(4 credits)**Full Year**Grades 11, 12*

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This is a second year course in chemistry. AP Chemistry is the equivalent of the introductory chemistry course taught at most colleges and universities. This course will prepare the student for the Advanced Placement Chemistry Exam. The laboratory section of this course is rigorous, and independent laboratory experiments will be stressed. It is assumed that students have retained a firm understanding of what they learned in their first year of chemistry, and group work, focused around complex or applied chemical concepts illustrates the course's style. AP Chemistry is an 8-credit course and will meet 10 periods per cycle.

## HISTORY AND SOCIAL SCIENCES

Num	Length	Credit	Course	Num	Length	Credit	Course
4101	F	4	World History Acc	4212	F	4	The World Since 1945 Hon
4102	F	4	World History Hon	4402	F	4	American Legal System Hon
4112	F	4	World History 9IP	4412	F	4	Economics Hon
4103	F	4	World History	4421	F	4	AP Psychology
4201	F	4	The World and America Acc	4422	F	4	Psychology and Sociology Hon
4202	F	4	The World and America Hon	4423	F	4	Psychology and Sociology
4203	F	4	The World and America	4462	F	4	African American Studies & Contemporary Issues Hon
4122	F	4	The World and America 10IP	4441	F	4	AP United States Government
4301	F	4	AP U.S. History	4445	F	4	Debate and Argument
4302	F	4	United States History Hon	0491	F	8	The Greater Boston Project
4303	F	4	United States History	4214	S	2	History, Politics, and Popular Music
4311	F	4	United States History Acc				
				4222/ 4221	F	4	★ A World in Transition: An Introduction to International Relations in the Twenty-First Century HON/ACC

The aim of the History and Social Sciences program is to prepare students for intelligent participation in our democratic society. In order to realize that goal, the department offers a carefully sequenced curriculum that provides knowledge and skills in history, geography, political science, psychology, sociology, and economics. Students are encouraged to take a two year World History sequence and one year of United States History is required for graduation. History course offerings in grades 9, 10, and 11 examine the heritage of major cultures and societies, and the development of the American identity. The curriculum investigates the responsibilities of citizenship in American society in an era of increasing globalization. Assignments in all courses work to develop analytical thinking and writing skills, research, and verbal presentation skills. The electives program allows students to study in greater depth a variety of courses in history and the social sciences.

### GRADE NINE

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**WORLD HISTORY, MIDDLE AGES TO NINETEENTH CENTURY: ACCELERATED, HONORS, COLLEGE PREP***4101, 4102, 4103**(4 credits)**Full Year**Grade 9*

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The purpose of this course is to have students learn about the historical development of the major cultures and societies from the Middle Ages to the nineteenth century. The emphasis is placed upon both European and non-Western societies. Geographical knowledge of our world, historical analysis and comparison of different cultures, and political and economic development of societies that have contributed to our modern global community, are areas of focus.

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**WORLD HISTORY 9IP***4112**(4 credits)**Full Year**Grade 9*

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Students who choose this course must also sign up for Biology 9IP, English 9IP, and Mathematics 9IP. Interdisciplinary World History fits within the sequenced curriculum of the Social Studies department to prepare students for intelligent participation in our democratic society while developing essential collaboration and communication skills. Students will learn about the historical development of the major cultures and societies from the Middle Ages to the nineteenth century. Assignments in all courses work to develop analytical thinking, writing, research, and verbal presentation skills. This course also draws explicit connections to the other 9IP subjects using a project-based learning approach to the interdisciplinary themes of Observations and Patterns, Systems, Power and Influence, Disease; and Revolutions. Students will develop geographical knowledge, historical analysis and research, and connections to the modern world in an engaging project-based approach.

## GRADE TEN

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**THE WORLD AND AMERICA: ACCELERATED, HONORS, COLLEGE PREP***4201, 4202, 4203**(4 credits)**Full Year**Grade 10*

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This course examines key themes in World and American History from the Age of Revolution until the present day. Themes studied include Imperialism, the World Wars, the rise of communism and fascism, the Cold War, Post-Imperialism, and modern China. As well as looking at the main events, the course analyzes the US perspective and America's role in the world. In addition, the course includes a unit, Facing History and Ourselves, that asks students to study the Holocaust and genocide and connect themes from history to the world today. Current events and geography are integrated throughout. The course places emphasis on research, debate and presentation skills and analytical writing. Accelerated students have the opportunity to participate in National History Day or an alternative long-term project.

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**THE WORLD AND AMERICA 10IP***4122**(4 credits)**Full Year**Grade 10*

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Students who choose this course must also sign up for Physics 10IP, English 10IP, and Mathematics 10IP. Interdisciplinary World and America fits within the sequenced curriculum of the Social Studies department to prepare students for intelligent participation in our democratic society while developing essential collaboration, communication, and presentation skills. Students will learn key themes in World and American History from the Age of Revolution until the present day. Themes studied include Imperialism, the World Wars, the rise of communism and fascism, the Cold War, Post-Imperialism, and modern China. As well as looking at the main events, the course analyzes the US perspective and America's role in the world. This course also draws explicit connections to the other 10IP subjects using a project-based learning approach to the interdisciplinary themes including Making an Argument, Relationships & Change, and Force, with a focus on skills of research, debate and presentation, analytical writing, and presentations. In addition, the course includes a unit, Facing History and Ourselves, that asks students to study the Holocaust and genocide and connect themes from history to the world today.

## GRADE ELEVEN

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### AP U.S. HISTORY

4301

(4 credits)

Full Year

Grade 11

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This course provides a thorough survey of America from the period of sectionalism to contemporary times. Supplementary readings and research papers will be required. In addition, the course is designed to prepare students for the Advanced Placement Examination in United States History.

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### ACCELERATED UNITED STATES HISTORY

4311

(4 credits)

Full Year

Grade 11

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Accelerated United States History is an upper level American studies class that is similar to the AP course in level of difficulty but different in terms of its focus and methodology. The course is focused on encouraging students to think about and discuss many of the large scale issues and themes that frame American history, including the tension between majority rule and minority rights, the role of individuals and groups in making history, the role of government in American society, the challenges of a multicultural society, and the effects of economic growth and technological development on everyday Americans. Supplementary readings and research papers will be required on a similar level to those in AP US History.

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### UNITED STATES HISTORY: HONORS, COLLEGE PREP

4302, 4303

(4 credits)

Full Year

Grade 11

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This course surveys American history and civilizations with an emphasis on the nineteenth century through the twentieth century. The focus will include developing skills in the areas of historical inquiry and critical thinking, primary source and data analyses, historical research and writing, and oral expression.

## ELECTIVES

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**DEBATE AND ARGUMENT**

4445

*(4 credits)**Full Year**Grades 9, 10, 11, 12*

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Debate and Argument enables students to develop speaking, listening, critical thinking, and research skills. Through participation in several distinct debate formats, students will work towards being able to understand, analyze, and explain the controversies underlying a wide variety of subjects. The crucial role of debate and critical thinking in both a democratic society and one's personal life will be emphasized. Several social, political, and philosophical topics will also be examined in the course. No prior speech or debate experience is necessary.

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**THE AMERICAN LEGAL SYSTEM HON**

4402

*(4 credits)**Full Year**Grades 11, 12*

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This course will examine the practical and theoretical aspects of law in American society. Students will investigate the many facets of our legal system including criminal, and civil. In addition law enforcement, incarceration, and the American courts will be examined. A variety of experiences will be provided to students. Among those are mock trials, guest speakers, court visits and a visit to the Massachusetts Correctional Institute. The main objective of the course is to acquaint the student with an understanding of the rights and responsibilities of citizens in a democratic society.

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**ECONOMICS HONORS**

4412

*(4 credits)**Full Year**Grades 11, 12*

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Economics is the study of how individuals and societies decide how to use scarce resources in order to satisfy their unlimited wants. The course focuses upon concepts and principles that include supply and demand, marketing, money and banking, the stock market, fiscal and monetary policies, as well as international trade. Comparing different types of economic systems is part of this introductory course. Economics should assist students in becoming informed decision makers through economic analysis of data, issues, trends and theories.

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**PSYCHOLOGY AND SOCIOLOGY: HONORS, COLLEGE PREP**

4422, 4423

*(4 credits)**Full Year**Grades 11, 12*

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The focus of this course will be upon the various theories of human behavior, the study of the brain, the senses and perception, motivation and emotion, the factors that influence personality development, the dynamics of group behavior, the unique nature of adolescence, gender differences, scientific methodology, and the historical significance of psychology. Field experiences, guest speakers and simulations will augment instruction.

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**AFRICAN AMERICAN STUDIES AND CONTEMPORARY ISSUES HON**

4462

*(4 credits)**Full Year**Grades 11, 12*

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This course will serve as an introduction to the study of African American life from the end of the Civil War to the present. Using a chronological framework, students will explore a wide range of themes involving politics, culture,

and the arts, while emphasizing the dynamic role played by African Americans in U.S. culture. Students will engage in lectures, debates, research projects and discussions, examining the African American experience through documents, music, film, and digital resources.

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**THE WORLD SINCE 1945 HON**

4212

(4 credits)

Full Year

Grades 11, 12

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This course examines cultural, political, economic, military, and social developments throughout the World since the end of World War II. The aim of the course is to enhance cultural literacy and familiarize students with the world's most significant issues and regions in recent history. Political issues highlighted include the Arab-Israeli conflict, India and China as emerging world powers, contemporary mechanisms for the prevention of genocide, and the status of democracy around the globe. Students are expected to be well versed in current events.

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★ **A World in Transition: An Introduction to International Relations in the Twenty-First Century HON/ACC**

4222/4221

(4 credits)

Full Year

Grades 11, 12

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Global affairs in the twenty-first century is in a period of transition that is influenced, in part, by changing power dynamics, climate change and technological innovation. In order to be effective global citizens and meet the challenges posed by a changing environment, students must have a good grasp of how the world works. A World in Transition is designed to do just that by providing students with the knowledge, tools and skills to be effective communicators and problem solvers through collaborative projects such as National Security Council simulations and through deep dives into a variety topics that will include, but not be limited to, history, economics, global health, climate change and international relations This course will appeal to students that are interested in reading and learning about the complexities of global issues in the pursuit of identifying effective solutions. This is an ideal fit for anyone interested in careers in foreign affairs, journalism, public policy, or international business. The course will be offered at both an Honors and Accelerated level.

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**HISTORY, POLITICS, AND POPULAR MUSIC**

4214

(2 credits)

Semester

Grades 11, 12

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How does your favorite music reflect the society in which it was created? How can pop music help you better understand our country's past and present? How do we use the act of listening to music as a lens through which we can understand issues of race, class, and gender in our nation's history? How does analyzing music help us better understand ourselves? To answer these questions and others, this course will analyze how youth culture (especially popular music) reflects, critiques, and influences American politics and society. The course is interdisciplinary and will be taught by one English teacher and one History teacher. Class work will be project-based and will allow all students to bring their own passions to the course; the music you listen to today will be a crucial part of this class!

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**AP PSYCHOLOGY**

4421

(4 credits)

Full Year

Grade 12

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This fast paced course is designed to introduce students to the systematic and scientific study of behavior and mental processes. Units include: research methods and ethics, intelligence, the physiological basis of behavior, motivation and emotion, learning theory, memory and thinking, sensation and perception, stress and frustration, social psychology, human growth and development, personality theory, abnormal psychology, and psychotherapy. The varied format uses a college level text, outside reading books, case study analyses, class discussion, experiments, demonstrations and labs. Activities are offered for each student to explore his/her own self-awareness. Additionally there is a small amount of required summer reading. Students are expected to contribute to class discussions and complete a project each term. Students will also design and conduct original research putting theory into practice. Students who elect to enroll should be highly motivated independent learners.

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**AP UNITED STATES GOVERNMENT***4441**(4 credits)**Full Year**Grade 12*

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**Prerequisite:** A full year of US History.

United States Government is designed to give students a critical perspective on government and politics in the United States. Students enrolled in this course will investigate the constitution, federalism, civil rights and civil liberties, the presidency, congress, and political interest groups. The course also examines U.S. political culture and its evolution, as well as public policy. This course's main focus is U.S. politics since 1980, with a special focus on political themes played out through current events and elections. Students are encouraged to develop their own theories through readings, role plays, discussions and term projects.

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**INTEGRATED SENIOR STUDIES ACCELERATED: THE GREATER BOSTON PROJECT***0491**(4 credits)**Full Year**Grade 12*

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This course explores how individuals and groups have worked throughout history to effect change in Greater Boston. Students will look at various historical moments through a variety of different lenses - population, government, economy, education, and arts & leisure - and consider how these have molded what Greater Boston has become today. The course of study is expressly interdisciplinary, as skills from the disciplines of English, history, and mathematics are brought together to explore Greater Boston's past and present. The course culminates in the Community Action Project, which entails collaborative exploration into and analysis of at least one area of study from the course; the project allows students to become agents of change as they work to develop, propose, present, and possibly implement their resolutions to existing real-world problems. **This is a double block, eight credit course that fulfills the senior year English requirement.**

## WELLNESS (HEALTH / PHYSICAL EDUCATION)

Num	Length	Credit	Course
8605	S	2	Wellness 9
8615	S	2	Wellness 10
8625	S	2	Wellness 11
8635	S	2	Wellness 12

All high school students are required to take one semester of Wellness (Health/Physical Education) each year while at Needham High School. Students must pass all (4) years of Wellness (8 credits) in order to meet their requirements for graduation. Students should sign up for the Wellness number that pertains to their grade level (as listed above). Sophomore and senior classes will meet during the fall semester while 9th grade and 11th grade classes will meet during the spring semester.

**Failure Policies:** A student who fails to successfully complete a required health/physical education course in any given semester, and/ or is dropped from a course, must make up the deficiency prior to the receipt of a diploma from Needham High School. It is expected that students will make up their Wellness requirement by repeating the course they have failed or by attending a summer school program approved by the Principal. Participation in additional semesters of Wellness can be done in extreme situations, but only with the approval of the Director of the Wellness Department. Students should make up courses as soon as possible after failing a course.

**Notice to Parents of students in grades 9 & 11 about Sex Education:** Health Classes in grades 9 and 11 include issues of human sexuality.

- During the second semester of **9th grade**, sexuality education will be taught within a larger unit called “9th Grade Health”. The overall program is designed to teach students to make responsible decisions about alcohol and other drugs, tobacco, and sexual behaviors. The sexuality component of this course views sexual behavior as an adult behavior that occurs within the context of a committed, respect ful, physically and emotionally healthy relationship.
- Also during the second semester, **grade 11** students will take a traditional health education class that addresses a wide range of teenage health issues (including sex and sexuality) and challenges teens to consider the risks and consequences (to self and others) behind their decisions. Students reflect upon their role in creating healthy relationships (peer/collegial, friendships, family relationships, romantic relationships) and think about the importance of negotiating roles and responsibilities (regardless of gender).

Detailed information about our sexuality education curriculum can be viewed on the Needham Public Schools website: <http://rwd1.needham.k12.ma.us/wellness/Sexuality>

*Under Massachusetts law and Needham School Committee policy, you may exempt your child from any portion*

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*of the curriculum that involves human sexual education or human sexuality issues. To receive an exemption, simply send a letter addressed to your building principal requesting an exemption for your child. Any student who is exempted will be excused from those lessons that cover topics on human sexuality and will be provided with an alternative assignment. A student who is exempted from this portion of the curriculum will not be penalized in any way.*

**Program Description:** At Needham High School, Health Education content and Physical Education content are combined to make up our wellness curriculum. Each individual course offers students a combination of “health” concepts and related “activities “ designed to build the skills, knowledge and attitudes needed to participate in an active healthy lifestyle. The wellness curriculum is designed to emphasize the student’s responsibility for his/her own health and well-being based on a six dimensional wellness model (see wellness hexagon below). This model explores human health as a multidimensional phenomenon that requires the individual student to take care of and nurture himself or herself in all the areas identified within the wellness hexagon.

The high school curriculum is part of a comprehensive K-12 Health and Physical Education sequence which enables the high school teachers to plan courses that build upon the knowledge, skills, and behaviors learned throughout the K-8 program. Because of this, high school classes focus more on encouraging each individual to evaluate his/her own wellness and set specific goals that will result in self improvement. As a result, high school wellness courses provide students with information, skills, and opportunities to carefully examine their current health status and challenge them to make appropriate adjustments towards healthier living.

The design of the high school wellness program includes a thematic focus for each grade level. Throughout the semester, this theme is integrated into 3 - 4 units of study (a required wellness unit, a required activity unit, and one or two additional activity units). As students experience this sequence of units, they learn wellness concepts in the classroom and then learn to apply them through specific activities in the fitness center, wellness studio, gymnasium, tennis courts and playing fields.

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**9th Grade Thematic Focus ~ Healthy Mind-Healthy Body Connection** This theme is used to help students understand the important relationship between a strong mind and a strong body. Students will learn about the developing teenage brain and how it affects their ability to make decisions. They will be challenged to think about the many decisions they will have to make in high school and learn ways to develop and maintain a healthy mind and body. Decision-making - particularly decisions about the use of alcohol and other drugs, and delaying participation in sexual behaviors will be stressed. Students will also be introduced to the Needham High School fitness center and learn practical ways to improve muscular endurance and strength. In addition students will learn about the many benefits of physical activity (physical, social, emotional, intellectual) through sports and games.

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**10th Grade Thematic Focus ~ Exploring Individual & Community Wellness** In this course, students are taught to use the wellness hexagon as a tool for thinking more broadly about their health and wellbeing and the wellbeing of others. This model expands students’ thinking about health beyond the typical absence of disease to a more holistic understanding of health as interdependent parts (dimensions) that work in concert with one another (see model of wellness hexagon above).. Each dimension is continually affecting and/or responding to the others



which results in a dynamic and ever changing sense of well being. By becoming more conscious of each of the dimensions of wellness, and working to nurture them, students learn ways to affect their overall sense of well-being (regardless of their current health condition). We refer to this process as becoming an active participant in our own wellness journey. In addition to self -- students will also explore ideas and ways to improve community wellness.

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### **11th Grade Thematic Focus ~ Understanding and Assessing Personal Risk and Consequences**

This theme is used to guide students as they examine and assess the positive and negative personal risks and consequences they may face as young adults. Participation in our indoor ropes course will illustrate the importance of building trust in relationships and demonstrate how stepping outside one's comfort zone can lead to positive risk taking (growth). In their health class, students will continue to explore characteristics of healthy and unhealthy relationships and will reexamine the negative risks and consequences of sexual activity and the use of alcohol and other drugs. Students will reexamine the development of the teenage brain and explore the potentially dangerous role that alcohol and other drugs play in poor decision-making.

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### **12th Grade Thematic Focus ~ In Pursuit of a Healthy Balance**

This theme is used in the culminating year of our program to help students reflect upon their past knowledge and experience in wellness classes and to explore and develop their own role and responsibilities in the ongoing pursuit of maintaining a healthy balance in their young adult lives. Students are challenged to explore their nutritional practices and think about ways to adopt healthy eating habits. Students learn strategies for managing stress and participate in both mindfulness and yoga practices. All students take CPR (those interested can receive a CPR card) and study health and wellness opportunities in the community and on college campuses.

**CONTENT DESCRIPTION FOR CORE WELLNESS CLASSES:** At each grade level, all students take two wellness units that are required and one or two others that are assigned based on space and time of year (some units can only be offered when certain spaces are available or when classes can be held outside). The required curriculum units have been carefully chosen to address health and wellness issues that are important to high school age students and that address school and community issues and concerns. State and national guidelines and The Metrowest Adolescent Health Survey (MWAHS) results guide decisions about content that should be required for all students.

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## **WELLNESS 9**

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Information about alcohol, drugs and sexuality will be taught within the context of a larger unit called 9th grade health. This unit begins by explaining the process of adolescent brain development. Research has shown that the brain continues to grow and develop into the early-to-mid 20's. It is the frontal lobe that is responsible for reasoning, problem-solving, and ultimately responsible decision-making that develops last. The frontal lobe also helps in the ability to control emotions and impulses. As a result, teenagers are at risk for making impulsive decisions. This course, is therefore, designed to help teens understand this risk and provides skills and strategies for good responsible decision-making in relation to alcohol, drugs, and sexual behavior. Towards this end, all 9th

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grade students will take Sexuality Education, AlcoholEdu for High School, Prescription Drug Safety, and HEADS UP: Real News About Drugs and Your Body.

- **Fundamentals of Fitness:** This course provides students with the basic facts concerning fitness by addressing three questions: (1) What is fitness? (2) Why is it important? (3) How do I attain fitness? Students are introduced to the Needham High School fitness center and taught how to use all the equipment safely and appropriately. Each student sets personal fitness goals and learns how to develop an exercise plan to meet their goals.
- **Sexuality Education** is a course that has been adapted from Get Real, which is a comprehensive sex education curriculum developed by Planned Parenthood of Massachusetts. Get Real emphasizes social and emotional skills as a key component of healthy relationships and responsible decision-making and emphasizes the important role that parents play in educating their children about sex and sexuality. Information provided is medically accurate and age-appropriate. In this course students will develop agreements and expectations for creating a safe and comfortable class climate, identify a parent/guardian or other trusted adult from whom they can obtain information about sex and sexuality, understand the meaning of the terms sex, sexuality and sexual health, identify and analyze the reliability of the different sources where teens get information about sex and sexuality, analyze the difference between adult readiness for sexual behavior and teen readiness, talk with a parent/guardian or other trusted adult about dating rules, review proper vocabulary and explain the structure and function of the male and female reproductive systems, review the process of human conception, review what we know about the teenage brain, review the decision-making model and discuss the role that values play in supporting good decision-making, understand how emotions and the use of substances (alcohol and other drugs) can interfere with responsible decision-making, talk to a parent/guardian or other trusted adult about one's family's values, identify characteristics of a healthy and unhealthy relationship, assess whether behaviors between two dating partners are healthy or unhealthy, identify the risks of dating a significantly older partner, assess behaviors as being acceptable or unacceptable in a relationship, talk with a parent/guardian or other trusted adult about healthy and unhealthy relationships, assess one's attitudes and beliefs about gender norms in relationships, talk with peers about their attitudes and beliefs about gender norms in relationships, explain why both males and females are responsible for the possible consequences of sexual behavior and unprotected sex, identify ways that both partners (same sex and opposite sex) can take responsibility for their own sexual health within a relationship, identify ways that both partners can support the sexual health of their partner within a relationship, identify STIs and how they are transmitted and prevented, learn names of STIs and whether they are curable or treatable, reflect on one's feelings about learning about STIs, understand the importance of being totally honest with the doctor when s/he asks questions about sexual behavior, identify important future goals, understand how an unplanned pregnancy will alter all future plans and goals, name and describe popular methods for pregnancy prevention, understand that abstinence is the only way to prevent pregnancy and STIs/ HIV, understand that a condom will protect against pregnancy & STIs most of the time (a condom is not 100% guaranteed), observe a teacher demonstration on the correct steps for condom use, identify all the steps of correct condom use, identify risky situations and ways to lower the risk of sexual intimacy, learn to make responsible decisions in sexual relationships and practice effective assertive communication and refusal skills, identify ways to negotiate postponement and protection within relationships, identify and maintain boundaries.

- **AlcoholEdu for High School** is an evidence-based, online alcohol prevention course proven to reduce negative consequences associated with underage drinking. Five online modules are designed to help students address difficult alcohol-related decisions and scenarios. Students learn how to leverage their personal values and goals, resist peer pressure, and step in when they see someone who may be in trouble. Students will be able to define a standard drink of beer, wine, and liquor, assess personal values and goals, challenge common myths and misconceptions and learn where they come from, recognize the influence of advertising on people’s drinking-related attitudes and behaviors, identify reasons for abstaining from drinking, describe the dangers of drinking from communal sources, assess personal background risks for drinking-related problems, explain the basic facts concerning “blood alcohol content - BAC”, recognize how parts of the brain are affected by alcohol use, list effective strategies to help someone who may have alcohol poisoning, analyze internal and external factors that may impact decisions, identify positive examples of refusing a drink and resisting peer pressure, list strategies for staying safe if choosing not to drink, identify options for handling a situation involving someone who might drive under the influence, understand the laws surrounding underage drinking, explain positive techniques for approaching difficult alcohol-related conversations, reassess personal goals and values, and create an action plan for future alcohol-related behaviors. AlcoholEdu offers a version for parents which can be accessed on the Needham Public Schools Website - wellness department page.
- **Prescription Drug Safety** is an innovative digital course that arms high school students with the knowledge and tools to make health, informed decisions when it comes to prescription medications. The program uses interactive scenarios and self-guided activities to help students learn facts about drugs, how to properly use and dispose of them, and how to step in when faced with a situation involving misuse. Topics include Opioids, stimulants, and depressants; Proper prescription drug use, storage, and disposal; Brain and body: the science of addiction; Simulations: refusal and bystander skills; and Debunking common myths.
- **HEADS UP: Real News About Drugs and Your Body** is a science-based education series that honors our 9th grade theme which is Mind-Body Awareness. The series is a product of a partnership between the National Institute for Drug Abuse (NIDA) and Scholastic, Inc. and presents easy to understand information about a variety of different drugs and their effects on the teenage brain and body. This site covers a wide range of different drugs, introduces both the scientific name and street names, describes what the drugs look like and how they are presented for sale, and covers the effects of the drugs on the human brain and body. Teachers will create a series of questions that will require students to navigate their way through the site to respond. They will encourage students to share information they learned from the site and review the skills of decision-making related to substance use. Examples of drugs discussed include alcohol, anabolic steroids, bath salts, cocaine, cough and cold medicine, heroin, inhalants, marijuana, MDMA (ecstasy or molly), methamphetamines (meth), prescription drugs (opioids, depressants and stimulants), salvia, and spice. Materials are updated every year so information will remain current. NIDA offers information for parents on its website which can be accessed on the Needham Public Schools Website - wellness department page.
  - NIDA for TEENS: <https://teens.drugabuse.gov/>
  - NIDA for TEACHERS: <https://teens.drugabuse.gov/teachers>
  - NIDA for PARENTS: <https://teens.drugabuse.gov/parents>

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## WELLNESS 10

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- **Introduction to Wellness:** Students will assess their physical, social, emotional, spiritual, and intellectual well-being and learn strategies for nurturing their health in each of these areas. Students will acquire knowledge about wellness principles, human needs, life patterns, and risk-taking behaviors and look at ways in which they affect (and are affected by) illness and wellness. After learning more about each of the six domains of wellness (physical, social, emotional, spiritual, intellectual, occupational), students will define a healthy human being, look at how healthy and unhealthy behaviors affect well-being, explore attributes of internal and external locus of control, and internal and external motivation, look at ways cultural norms affect healthy and unhealthy choices, assess their current well-being in each of the six dimensions of wellness, explore potential reasons why some people follow lifestyles that are unhealthy, and develop a wellness creed outlining their commitment to their own wellness journey. Students will also assess their relationship with their school community and determine ways to enhance overall community well-being.
- **Group Dynamics:** This course provides a unique opportunity for students to understand the importance and dynamics of group development. Class sessions consist of both mental and physical challenges that require students to work together to find solutions. Students learn the characteristics of five different stages of group development (forming, storming, norming, performing, adjourning) ((Bruce Tuckman in 1965) and practice skills to help move their group through these stages. Students learn the effect that an individual's actions can have on the attitudes and performance of others. Other areas of learning include the ability to listen and express oneself, group cooperation, concern and respect for others, and exploring ways to share one's strengths with others. Students also look at ways group dynamics (peer pressure) can lead people to make decisions that they might not make on their own.
- **Understanding Games:** Students will play and analyze games and identify those characteristics that are similar among like activities (invasion games, net games, target games, etc.). Emphasis will be placed on the application of skills, understanding movement concepts, the joy of play, and creating new games that can be shared with classmates.

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## WELLNESS 11

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- **Critical Health Issues:** This health class explores the potential risks and consequences associated with the teen and young adult social scene. Students reexamine the teenage brain to learn more about their propensity to take risks and practice skills to prepare them to make healthy decisions. Students analyze scenarios to explore how different decisions could lead to various possible outcomes. They explore how decisions can be influenced by their relationships with others in both positive and negative ways and learn the role that values play in making healthy and safe decisions. Students reflect upon their own personality and explore traits and behaviors they want to bring to a relationship as well as traits and behaviors they'd like to have in a relationship. They define the characteristics of healthy and unhealthy relationships and identify signs of abusive relationships. Students explore different communication styles (confrontational/aggressive, passive, assertive), and learn effective ways to communicate within a relationship. Terms and issues related to sexual diversity (gender identity, gender expression, sexual

orientation, etc.) are discussed. Students learn about the biology of sexual desire and discuss ways to negotiate intimacy while remaining committed to abstinence/postponement of sexual behaviors. Students study the effect that alcohol and other drug use can have on relationships and on decisions to participate in sexual behaviors. They study current events in which substance use affected one's ability to make good decisions about sexual behaviors and brainstorm strategies that could have prevented the situation. Issues of sexual harassment, sexual assault, dating violence, and signs and symptoms of an unhealthy relationship and/or an abusive relationship are included.

- **Ropes Challenges:** Through preparation and participation on our indoor ropes course, students learn the importance of trust, teamwork, communication, personal awareness, courage, support, and problem-solving. In small teams, students support one another as they learn the skills required to safely participate on a challenge course. Students learn to tie safety knots, wear safety gear correctly, run a pre-climb safety check, spot (support) climbers, communicate clearly, and climb the various initiatives that make up the challenge course. No student is required to climb. We want students to choose to climb only when they feel safe and ready. All students learn the skills and expectations for each role of a belay team (belayer, back-up belayer, anchor, and rope attendant) so that they can better work as a team to support climbers.

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## WELLNESS 12

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- **Nutrition:** Students learn why healthy eating is important in preventing major diseases, and in maximizing mental and physical energy and performance. Students learn basic food facts and study the US Dietary Guidelines recommended for all Americans. Students will learn the difference between calorie dense foods and nutrient dense foods, learn to read food labels, calculate personal caloric and nutrient needs, explore personal eating habits, understand the difference between safe and unsafe ways to lose and gain weight, identify healthy options in a grocery store (field trip to Sudbury Farms) and plan a healthy meal for themselves and their families.
- **Yoga:** This course covers the basic knowledge, attitudes and concentration necessary to benefit from a Yoga practice. Flexibility, balance, and body alignment, as well as breathing, relaxation techniques and stress management strategies are part of each exercise session. Students also learn the benefits of mindfulness. Students practice yoga skills and mindfulness skills throughout the unit.
- **First Aid/CPR:** The American Heart Saver First Aid and CPR course is taught to all seniors and includes information and skills to provide first aid, cardiopulmonary resuscitation (CPR), and automated external defibrillator (AED) use in a safe, timely, and effective manner. The course goals include content knowledge and physical skills. In addition to learning CPR and AED skills, students also learn how to assess an emergency situation, help a choking adult or child, stop severe bleeding, use an epinephrine pen, and respond to an adult opioid-associated life-threatening emergency. Students learn about Naloxone and how it can be administered in an emergency situation. Upon completion of the course, students may be certified to administer CPR to infants, children, and adults.

## WORLD LANGUAGES

Num	Length	Credit	Course	Num	Length	Credit	Course
1112	F	4	French 1 Hon	1522	F	4	Spanish 2 Hon
1121	F	4	French 2 Acc	1523	F	4	Spanish 2
1122	F	4	French 2 Hon	1531	F	4	Spanish 3 Acc
1131	F	4	French 3 Acc	1532	F	4	Spanish 3 Hon
1132	F	4	French 3 Hon	1533	F	4	Spanish 3
1141	F	4	French 4 Acc	1541	F	4	Spanish 4 Acc
1142	F	4	French 4 Hon	1542	F	4	Spanish 4 Hon
1152	F	4	French 5 Hon	1563	F	4	Spanish 4
1161	F	4	French 5 Acc	1581	F	4	AP Spanish Language and Culture
1171	F	4	AP French Language and Culture	1552	F	4	Spanish 5 Hon
1313	F	4	Latin 1 CP	1561	F	4	Spanish 5 Acc
1311	F	4	Latin 1 Acc	1602	F	4	Mandarin 1 Hon
1312	F	4	Latin 1 Hon	1612	F	4	Mandarin 2 Hon
1321	F	4	Latin 2 Acc	1621	F	4	Mandarin 2 Acc
1322	F	4	Latin 2 Hon	1631	F	4	Mandarin 3 Acc
1331	F	4	Latin 3 Acc	1622	F	4	Mandarin 3 Hon
1332	F	4	Latin 3 Hon	1641	F	4	Mandarin 4 Acc
1341	F	4	Latin 4 Acc	1632	F	4	Mandarin 4 Hon
1342	F	4	Latin 4 Hon	1681	F	4	Mandarin 5 Acc
1513	F	4	Spanish 1	1691	F	4	AP Mandarin Chinese Language and Culture
1512	F	4	Spanish 1 Hon	1719	F	4	INDEX World Language
1521	F	4	Spanish 2 Acc				

The World Languages Department offers language sequences in four different languages: French, Spanish, Mandarin and Latin. Each language sequence develops students’ skills in reading, writing, listening and speaking. All modern language courses focus on communicative proficiency, cultural understanding and making linguistic connections. Modern language courses above the introductory level are taught in the target language and students are expected to use only the target language during class.

The NHS high school graduation requirement is two years of study in the same world language. Students who want to become proficient in a particular language by graduation should study the same world language for four years in high school.

**Guidelines for Selecting the Most Appropriate Course:**

Students may continue studying the language they studied in middle school or they may begin learning a new language. If a student wants to begin studying a new language at Needham High, the student should elect one of the first year courses (Examples: Latin 1 or Mandarin 1)

If a student studied French, Spanish or Mandarin in middle school and wants to continue studying that language at Needham High, then the student should select French II, Spanish II or Mandarin II.

**Guidelines for Selecting the Most Appropriate Level:**

Current NHS students should make their course level selection in consultation with their current world language teacher. When selecting a language “level” students are encouraged to consider the following level descriptions. Please note: It is easier to change levels earlier in one’s language sequence than later.

- **College Preparatory (Latin and Spanish only):** College Preparatory World Language classes are paced to ensure students have ample in-class practice with essential linguistic structures and high frequency vocabulary. There is extensive guided practice provided in class. Homework emphasizes skills practice and structured application.
- **Honors (All languages):** Honors World Language classes are taught at a moderate pace and require moderate amounts of preparation outside of the classroom. Instruction focuses on essential linguistic structures, high frequency and enrichment vocabulary, and there is some repetition. Homework blends skills practice with skills application.
- **Accelerated (All languages):** Accelerated World Language classes are taught at a fast pace and require a significant amount of preparation outside of the classroom. Instruction integrates complex linguistic structures, extensive vocabulary, and there is a limited amount of in-class guided practice and limited repetition. Accelerated courses are excellent preparation for the Advanced Placement course. Homework generally focuses on students’ application of skills (reading, writing, speaking, listening).

## FRENCH

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**FRENCH 1**

1112

(4 credits)

Full Year

Grade 9, 10, 11, 12

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This honors level course is an introduction to French, to its pronunciation and intonation, to its basic grammar and idioms, and to an elementary vocabulary. The aim is to develop the listening and speaking skills and also includes the reading of simple texts. The student will be introduced to France and the Francophone world.

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**FRENCH 2: ACCELERATED, HONORS**

1121, 1122 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course is for students who began their study of French in middle school and are entering grade 9. The course builds upon the core content found in the textbook. Students may be expected to maintain an oral and/or written journal, to write several compositions, to make oral presentations, to use the language lab, and to read cultural and/or literary selections.

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**FRENCH 3: ACCELERATED, HONORS**

1131, 1132 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course builds on French 2, expanding the use of all four language skills with more complex use of language and comprehension of more sophisticated texts and other materials.

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**FRENCH 4: ACCELERATED, HONORS**

1141, 1142 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course builds on French 2 and 3 as students read and/or view selected works of literature and culture of the Francophone world that deal with issues such as emigration, immigration, cross-cultural adaptation, and current events. Emphasis will be placed on the further development and practice of the four language skills. The honors level focuses more on practical vocabulary in a variety of daily situations and studies cultures of the Francophone world through adapted literature. In general, the accelerated level goes deeply into grammar, verb tenses, and vocabulary with a focus on analytical and creative writing.

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**FRENCH 5: ACCELERATED, HONORS**

1161, 1152 (4 credits)

Full Year

Grade 9, 10, 11, 12

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This is a course based on the principles of project-based learning. Students will reinforce communicative functions learned in French 4 and will continue to develop their proficiency through investigations, debates, performances and products of film, art, literature, cuisine and cultural/historical studies of French and the Francophone world.

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**ADVANCED PLACEMENT FRENCH LANGUAGE AND CULTURE**

1171 (4 credits)

Full Year

Grade 12 or department approval

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This course is designed to develop the four language skills at a high level of proficiency and accuracy and to prepare the students for the French Language and Culture Advanced Placement examination in May. Those

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students who are successful on the AP exam may receive college standing and/or credits for their outstanding high school performance. Students will read selected works, classic and modern, to discuss various themes and social issues.

## SPANISH

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### SPANISH 1

1512, 1513 (4 credits)

Full Year

Grade 9, 10, 11, 12

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This course is an introduction to Spanish, its pronunciation and intonation, basic vocabulary, and basic grammar and idioms. The emphasis of the course is on listening and speaking with some beginning reading and writing. 1512 is an honors level course designed for students who have had previous successful experience with another world language. 1513 is a College Prep level course designed for those students who are just beginning their study of a world language.

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### SPANISH 2

1521, 1522, 1523 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course is for students who began their study of Spanish in middle school and are entering grade 9; or for students entering grade 10, who are continuing with their Spanish studies after completing Spanish 1.

In this course, students expand their knowledge and use of the present and past tenses, write several compositions, make oral presentations, use the language lab, and read cultural and/or literary selections. Thematic units of study include: geography of the Spanish speaking world, daily routines, childhood, an exploration of celebrations in the Spanish speaking world, and the study of sports and sports figures in the Spanish speaking world. Students studying at the accelerated pace will also study news reporting and current events.

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### SPANISH 3

1531, 1532, 1533 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course builds on Spanish 2, expanding the use of all four language skills with more complex use of language and comprehension of more sophisticated texts and other materials. Thematic units of study include: shopping (places and ways one can shop), how to care for one's self (healthy practices in the Spanish speaking world and one's own community; how to communicate about illness, remedies and provide recommendations to improve one's health), and an exploration into social issues in the Spanish speaking world and one's own community.

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### SPANISH 4

1541, 1542, 1543 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course builds on Spanish 2 and 3 as students further develop their communicative capacity in the target language through conversation as well as reading and/or viewing selected works of literature and culture of the

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Hispanic world. Thematic units of study at the college prep and honors pace include: exploration of study abroad experience through planning for international travel, accommodations (making hotel reservations), using public transportation and navigating a city, housing and home life abroad (finding a host family and/or roommates), and eating out (restaurants, street food, and social norms & customs).

Thematic units of study at the 4 accelerated pace include: art in the Spanish speaking world, identity, immigration, and the study of social media in the Spanish speaking world as well as one's own community. This course also emphasizes refinement of one's communication skills relative to grammatical accuracy and nuances in meaning (word choice, phrasing and contextual appropriateness).

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## **SPANISH 5**

1561, 1552 (4 credits)

Full Year

Grade 9, 10, 11, 12

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This course continues the work of Spanish 4 honors and 4 accelerated. In this course students examine the various cultures of the Spanish-speaking world from different perspectives: through authentic readings, songs, poetry, art, technology, films and cultural/historical projects. Students will complete projects and present them to the class as a way of participation and assessment. Advanced grammar will be reviewed and practiced within classroom discussions and debates as well as in written products.

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## **ADVANCED PLACEMENT SPANISH LANGUAGE AND CULTURE**

1581 (4 credits)

Full Year

Grade 12 or department approval

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This course is designed to develop the four language skills at a high level of proficiency and accuracy and to prepare the students for the Spanish Language and Culture Advanced Placement examination in May. Students will deepen their knowledge not only of the Spanish language, but also the culture of countries where Spanish is spoken. Those students who are successful on the AP exam may receive college standing and/or credits for their outstanding high school performance.

## **MANDARIN (CHINESE)**

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### **MANDARIN 1**

1602 (4 credits)

Full Year

Grade 9, 10, 11, 12

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This course is an introduction to Mandarin and the Chinese-speaking world. Students study pronunciation, intonation, basic grammar and idioms, and develop an elementary vocabulary. The aim is to develop students' listening and speaking skills and for students to acquire a basic level of fluency. The course also includes the reading and writing of simple texts.

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### **MANDARIN 2**

1612, 1621 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course is for students who began their study of Mandarin in middle school and are entering grade 9; or for

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students entering grade 10, who are continuing with their Mandarin studies after completing Mandarin 1. This course builds on Mandarin 1 and is designed to develop the four language skills. In addition to the core content found in the textbook, students will read selected works from Rhythm & Rhyme and do hands-on projects. Students will also learn about the culture of China and Chinese speaking countries.

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### **MANDARIN 3**

1631, 1622 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course is a continuation of Mandarin 2, and is designed to further develop the four language skills. Students will achieve greater proficiency through reading more complex Mandarin, reporting on news from the Chinese-speaking world, and carrying out projects. Students also learn how to type Chinese characters at a good speed.

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### **MANDARIN 4**

1641, 1632 (4 credits)

Full Year

Grades 9, 10, 11, 12

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This course builds on Mandarin 3 as students further develop the four language skills. Students will read more complex Mandarin texts and students' will further develop their writing skills through journals, compositions and/or short essays. Students will also report on news from the Chinese-speaking world and regularly type in Chinese characters.

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### **MANDARIN 5 ACC**

1681 (4 credits)

Full Year

Grade 9, 10, 11, 12

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This course is designed to develop the four language skills at a high level of proficiency and accuracy. Students will read works from classic and contemporary authors and will develop their writing skills. Students will also engage actively in listening and speaking activities. Finally, students will study Chinese culture through articles, newspapers, films, and short stories.

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### **AP MANDARIN CHINESE LANGUAGE AND CULTURE**

1691 (4 credits)

Full Year

Grade 12 or department approval

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This course is designed to develop the four language skills at a high level of proficiency and accuracy and to prepare the students for the Chinese Language and Culture Advanced Placement examination in May. Those students who are successful on the AP exam may receive college standing and/or credits for their outstanding high school performance. Students will read works from classic and contemporary authors and will develop their writing skills. Students will also engage actively in listening and speaking activities. Finally, students will study Chinese culture through articles, newspapers, films, and short stories.

## **LATIN**

The Latin program focuses on the following areas: (1) developing students' understanding of the impact of Latin

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on English and the modern Romance languages through the study of roots, prefixes, suffixes; (2) developing students' understanding of the impact of Roman culture on modern art, architecture, literature, and political and cultural institutions; (3) the development of reading skills through a combination of fictional Latin stories and original Latin (both adapted and unadapted) so that students are able to read authentic Latin upon completion of the Latin 4 course; and (4) the development of students' speaking, listening and writing skills in order to better translate and understand Latin.

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**LATIN 1***1311, 1312, 1313**(4 credits)**Full Year**Grades 9, 10, 11, 12*

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This course is an introduction to the Latin language and the world of ancient Rome. Students learn to see Latin and elements of ancient culture as an important part of their world, and to view that world through the lens of Latin. Emphasis is placed on the elements of the language: alphabet, pronunciation, parts of speech, word-formation, vocabulary (including English derivatives), and grammatical rules. Students will use the *Ecce Romani* textbook, which uses an intuitive "reading based" method of learning, as well as "Active Latin" methods including speaking and listening to support students' development of reading and communication skills. Through readings about an aristocratic Roman family, students will begin to learn the geography of the ancient Roman world, Roman mythology, an outline of Roman history, and important aspects of Roman private and public life. Because this course is the foundation for the continuing study of Latin, it is vital that students develop the necessary habits of memorization, attention to detail, preparation of daily work, and organization. Memorization of word-forms, vocabulary and grammatical rules is essential.

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**LATIN 2***1321, 1322**(4 credits)**Full Year**Grades 9, 10, 11, 12*

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This continuation of Latin 1 further develops the student's Latin vocabulary and involves the study of more advanced aspects of the Latin language. Students continue using the *Ecce Romani* texts as well as Active Latin methods to read continuous passages of increasing difficulty. Students also study various aspects of Roman transportation and travel. At this stage in the Latin sequence, students begin to apply their Latin language skills in context and transition away from memorization. To prepare for Latin 3, students in Latin 2 will develop a solid knowledge of subordinate sentence structures, the architecture of a complex Latin sentence, and skills for dealing with variable Latin word order.

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**LATIN 3***1331, 1332**(4 credits)**Full Year**Grades 9, 10, 11, 12*

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During the first part of the year students will continue to learn the grammar and syntax of Latin that is important for translating original texts, again using the *Ecce Romani* text well as Active Latin methods. Students will also continue to study English derivatives and Roman civilization forms of entertainment, such as the *Circus Maximus* and *comissatio* - the Roman dinner party. In this course, students make their first leap to connected reading in authentic Latin. The course requires students to engage in strong study habits in preparation for Latin 4.

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**LATIN 4***1341, 1342 (4 credits)**Full Year**Grade 12 or department approval*

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During the first part of the year students will continue to learn the grammar and syntax of Latin that is important for translating original texts. Students will finish reading the *Ecce Romani* texts, well as Active Latin methods. The inclusion of authentic Latin will be more consistent and more challenging than what students experienced in Latin 3. Students will explore authors from Aesop to Caesar to Horace.

## ELECTIVES

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**INDEX WORLD LANGUAGE***1719 (4 credits)**Full Year**Grades 9, 10, 11, 12*

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INDEX World Language study may be elected as a full-year course for students who want to study a language that is not currently taught at Needham High School (examples are German, Italian, and Arabic). Similarly, a student may want to study French, Spanish or Latin at a level that is not offered (either Latin 5, or a sixth year of French or Spanish). INDEX is available to students who have already met their world language high school graduation requirement or have achieved an advanced level in another world language.


The term INDEX stands for “independent exploration”. Thus, students must:

- Present a study plan for approval by the Director of World Languages.
- Gain acceptance into the INDEX Program and registration for INDEX as a course are contingent upon such approval.
- Commit to carrying out study that is self-directed and carried out with minimal supervision and guidance.

INDEX study will be graded ‘pass/fail’, carry full academic credit, and will not be weighted.

## OTHER ELECTIVE OFFERINGS

Needham High School offers several additional course offerings for the 2021-2022 school year.

Num	Length	Credit	Course	Num	Length	Credit	Course
9897	F	2	Courageous Conversations on Race 1	1260	S	2	Peer Tutoring
9887	F	2	Courageous Conversations on Race 2	9899	S	2	TEC Internship
9896	S	2	Internship in Special Education	9898	F	4	Work Study
				9996	S	1	 Upperclass Teacher Aide

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### COURAGEOUS CONVERSATIONS ON RACE

9897 (2 credits)

Full Year

Grades 11, 12

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This full year course open to juniors and seniors through a recommendation process will focus on learning about how race functions as a social construct and how racism operates on a systemic level both in society and here at Needham High. The course will include an exploration of both personal identity, and strategies for increasing knowledge and closeness between ethnic and racial groups. Students will learn about this history of racial inequity through lessons of history, literature, and politics; reflect on their identity and on their own experiences in the equity arena in the current cultural and school climate; practice courageous conversations; and explore personal experiences of racism and inequity. Through experiential activities and a study of selected readings, videos, and other media, students will learn why it is important to talk about race and how to do it. Course topics will include bias, privilege, discrimination, racism, and the cycle of oppression. As the culminating project for the course, students will use their knowledge to design Courageous Conversations on Race lesson plans that they will execute with grade 9 students. Students will be able to apply the knowledge and skills learned in this course to other areas of social inequity. This course will meet on Friday mornings before school for a full year.

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### COURAGEOUS CONVERSATIONS ON RACE 2.0

9887 (2 credits)

Full Year

Grade 12

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**Prerequisite:** This full year course expands and refines skills developed in CCOR 1.

Students will focus on leadership development and facilitation skills necessary to participate in continued self-reflection, class interfacing, taking leadership roles in CCOR class and teaching of our 9th graders. Students enrolled in this course will help guide our Join the Conversation events, facilitate HS and middle school workshops, and partner with various clubs under the umbrella of SAFE in equity work. As well, students will have

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the opportunity to participate in youth leadership and equity-related events beyond NHS, such as Sparkshare and NDI summits. Students will also be supported in developing specialized areas of study that can be integrated into CCOR and 9th grade curriculum, such as National/Statewide Equity and BLM Movements; Voter Registration and accessibility; Inequity in the Pandemic; Economic Oppression; and Educational Systemic Oppression – school to prison pipeline.

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### **INTERNSHIP IN SPECIAL EDUCATION**

9896 (2 credits)

*Semester*

*Full-Year*

*Grade 10, 11, 12*

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~~After training with special education staff including a special educator, speech and language pathologist, and a Board Certified Behavior Analyst, students would take part in programming focusing on peer modelling, tutoring, socialization, and friendship development. Additionally, students will develop an understanding of different disabilities, life skills curriculum, and functional academics. Students would be expected to participate in activities in school and in the community during class time.~~

Students will take part in training with the special education staff including a BCBA (Board Certified Behavior Analyst), Special Educator, School Psychologist and Speech/Language Pathologist. Under the supervision of special education staff, the student will provide peer modeling and mentoring, academic tutoring, and social opportunities for students in our special education programs. Throughout the course, the students will develop an understanding of different types of disabilities, lifeskills/ transitions curriculums, and the importance of inclusion. Students would participate in activities in school and in the community during their class time.

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### **PEER TUTORING**

1260 (1 credit)

*Semester*

*Grades 11, 12*

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This volunteer program is available for juniors and seniors who are interested in using their academic talents to support their peers in academic support classes. After training, peer tutors will be able to provide numerous supports to students including: assistance with reading, support with note taking and test prep, guidance with editing and revising papers, support with organization. Participating students will attend the support class a minimum of three of the five class meeting days each rotation.

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### **TEC INTERNSHIP**

9899 (1 credit)

*Semester*

*Grade 12*

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Internships are structured, supervised learning experiences allowing students the opportunity to explore a career. Needham is a member of The Educational Cooperative (TEC). The TEC internship program offers students the opportunity, for a fee, to be placed with an organization or business in a career area of interest. Students and families will be responsible, at least in part, for the internship fee. Interested seniors must have a minimum of 74 credits at the end of junior year. More information is available at [www.tec-coop.org](http://www.tec-coop.org).

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### **WORK STUDY**

9898 (1-4 credits)

*Full Year*

*Grades 11, 12*

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The Work Study class is designed to recognize the learning experiences students have in work environments, while providing the skills needed to be successful in those spaces. Students will be required to have a job prior to enrolling and will be expected to work a minimum of 12 hours per week during the year. In addition to the direct work experience, students will meet periodically with the NHS teacher outside of the regular school day to focus on the skills, interactions, and knowledge needed to be successful in any job setting. The teacher will complete periodic visits to each job site and maintain contact with employers throughout the year to assess how the in-class lessons are translating to the work environment. Participation in the class must be approved by the student's guardian, counselor, and assistant principal. The class will be graded on a Pass/Fail scale, based on satisfactory performance on the job and the fulfillment of the after school class requirements. Credits will be awarded based on average hours worked each week.

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### **Upperclass Teacher Aide**

*9996 (1 credit)*

*Semester*

*Grades 11,12*

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Students who are Upperclass Teacher Aides work closely with one teacher in one course, providing assistance to that class throughout a semester. The aide position allows juniors and seniors to gain experience in an educational setting as they learn firsthand some of the tasks and responsibilities of the teaching profession. The responsibilities may include, but are not limited to: assisting with small group work, providing one-on-one tutoring support, researching and preparing instructional materials, creating classroom displays, leading mini-lessons, etc. Aides are expected to be present in the class each day, where the majority of the work will take place.

Interested students must get approval from a teacher who will notify the counselor to assign the class on the student's schedule. The class is evaluated on a Pass/Fail basis.

## STUDENT SUPPORT SERVICES

**PLC and SKILLS** classes are graded on a Pass/Fail basis. A passing grade is earned by students who engage in regular attendance, have a willingness to work, accept support and engage in lessons. Students earn credit for these classes. ~~PLC and SKILLS classes are considered “major” classes and can be considered toward athletic eligibility.~~

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**GRADE LEVEL SKILLS CLASSES** are designed to serve students who are included in general education classes at the College Prep, Honors or Accelerated level and who ~~require services based on their goals in their Individualized Education Program-supportive instruction to help them access the general curriculum.~~ Students in the Skills Center utilize academic support and develop strategies to learn how to use their strengths to compensate for area(s) of difficulty or challenge, to develop self awareness, self advocacy, and to gain independence in managing their academic responsibilities. Recommendations for Skills classes and frequency are made by the student’s IEP team. ~~Students who are having difficulty balancing desired/required courses around their Skills class should contact the NHS Director of Special Education to discuss whether accommodations are possible.~~

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**SKILLS CLASS in the CONNECTIONS PROGRAM** provides organizational support, academic and therapeutic interventions including individual and group counseling in a therapeutic milieu setting. Students learn coping skills in order to become successful students. Recommendations for Skills classes and frequency are made by the student’s IEP team.

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**SKILLS CLASS in the INSIGHT PROGRAM** provides targeted support in the area of executive function and social pragmatics. Students take part in social skills/ social pragmatic groups with the Speech and Language Pathologist at least once a cycle as part of the program. Recommendations for Skills classes and frequency are made by the student’s IEP team.

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**FOUNDATIONS Math classes** are special education classes that provide a modified curriculum and are delivered in a small group environment. The curriculum follows the ~~Massachusetts Curriculum Frameworks Common-Core Standards~~ in Mathematics. Recommendations for Foundations Math classes ~~and frequency~~ are made by the student’s IEP team.

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**The ILC (Independent Learning Center) and the Postgraduate Program** are community based model of instruction for students who require transition services as designated by their IEP’s. The programs are designed to promote a seamless transition from High School to the demands of adulthood. “Undergraduate students” complete a combination of general education classes and specialized academic classes within NHS. Internships are developed at an early age to introduce work skills and expanded upon in a meaningful and age-appropriate manner. Additional services include ( but are not limited to): travel training, shopping, meal planning, cooking, budgeting, self -advocacy instruction, social skill development and accessing community resources, as the academic schedule allows. Following completion of the four year academic portion of their program, students

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participate in the NHS graduation ceremony and move on to manage an individualized schedule comprised of some or all of the following components: internships/ competitive employment, post-secondary education, functional academics taught in natural contexts, community based recreation, travel using multiple modes of transportation, independent living skill development and self-determination (planning for the future). The program duration and intensity of supports provided is determined by the individual and his or her Team. Individuals and their families are supported as they evaluate and select adult service providers and community resources following their exit from the school system.

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**THE PATHWAYS PROGRAM** is a sub-separate therapeutic program located within Needham High School providing students with an academic curriculum aligned with the Massachusetts Curriculum Frameworks and high level of therapeutic support. Recommendations for Pathways are made by the student's IEP team and each student's program is unique to their learning and emotional needs.

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**\*PERSONALIZED LEARNING CENTER (PLC)** is a structured general education program designed to assist students in need of academic support. Students enrolled in the PLC work to complete assignments, and improve study skills, organization and test taking strategies. Referrals for PLC are made by the student's school counselor to the Student **Success** Team (SST).

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**\*TRANSITIONS** is a short-term program that supports the needs of students re-entering high school from a lengthy absence. Entrance into Transitions begins with a re-entry meeting in which an individual plan is designed to include communication with classroom teachers, making up work and any needed clinical support.

\*Transitions and PLC are overseen by the Special Education Department but are not special education services.

# **GUIDANCE DEPARTMENT SERVICES**

## **SCHOOL COUNSELORS**

The School Counselors in the Guidance Department at Needham High School provide comprehensive social/emotional, academic, and postsecondary counseling, as well as career and community service exploration, to all students at Needham High School. ~~The following services are available to all students:~~

The School Counselors work to help all students achieve academic success, balance in their lives, help in times of crisis, and to assist in developing a meaningful plan for life after high school. All School Counselors can be accessed by appointment or on a drop in basis. Regardless of the severity of an issue, all students are encouraged to meet with and establish a working relationship with their School Counselors as early as possible. If an emergency situation arises, any available School Counselor will meet the needs of student(s) if the assigned School Counselor is not available.

Guidance Department Website:

<https://sites.google.com/a/needham.k12.ma.us/nhs-guidance-department/home>

## **SOCIAL & EMOTIONAL SUPPORT**

Students may face challenges during their time at Needham High School. School and Personal Counselors collaborate to support students and their families during these difficult times.

## **PERSONAL COUNSELORS**

Personal counselors provide a continuum of services to students in need. They support students to help them navigate the disappointments and frustrations that may occur during the high school years. They also help students manage more serious emotional or behavioral concerns and high risk behaviors. They provide crisis intervention for any student or family in need, assisting with locating the appropriate resources. ~~Students can be seen individually or in group counseling sessions.~~

~~Besides the counseling and case management functions, the personal counselors' responsibilities include the oversight of the Mediation Program and facilitating student re-entry meetings after hospitalizations with the Transition Program Social Worker.~~

While students often initiate the contact with their School or Personal Counselor, another student, parent, guardian, teacher, or administrator who is concerned may reach out to the School or Personal Counselor directly. Counselors will also reach out to students to help establish a relationship or to address a personal issue as the need for this is identified to them. Please note that conversations with Counselors are considered confidential, and are not part of the school record, although there are limits to the bounds of confidentiality with situations that pertain to safety.

Every student is assigned to one of eight School Counselors (divided alphabetically) for four years. Each student is assigned one of ~~two~~ **three** Personal Counselors (divided alphabetically) for four years.

## **SCHOOL ADJUSTMENT COUNSELORS/ TRANSITIONS PROGRAM SOCIAL WORKER**

The school adjustment counselors work with students who have a specific social-emotional goal within an Individualized Education Plan (IEP). ~~There is a personal counselor assigned to work primarily with the Pathways Program, one with the Connections program, and the~~ Transition Program Social Worker works with students

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returning back to school after a mental health crisis or significant medical event.

## **Needham High School Guidance Structure for 2022-2023**

(email staff format: [firstname\\_lastname@needham.k12.ma.us](mailto:firstname_lastname@needham.k12.ma.us) ; phone: 781-455-0800 xt)

<b><u>Personal Counselors</u></b>	<b><u>School Counselors</u></b>	Grade 12 (2023)	Grade 11 (2024)	Grade 10 (2025)	Grade 9 (2026)
Danielle Hopkins xt 22125	Will Grannan xt 22118	A - Bro	A - Caro	A - B	A - B
	Renee Vasquez xt 22126	Bru - Ded	Carp - E	C - D	C - El
	Katrina Martyn xt 22120	Dem - Gl	F - Ha	E - He	Em - Hef
Dan Haggerty xt 22133	l'Esha Thomas xt 22122	Go - Kin	He - Ler	Hi - Le	Heg - Law
	Mary Jane Walker xt 22127	Kir - Mel	Les - M	Li - N	Lax- Mi
Amanda Katz xt 22121	Anya Huston xt 22130	Men - P	N - R	O - Rose	Mj - Rib
	Meridith Welch xt 22128	R - Sul	Sa - Sz	Rosi - S	Ric - Su
	Shannon Mastroloalo xt 22123	Sun - Z	T - Z	T - Z	Sv - Z

**Transitions/Adjustment Counselor**

Michelle Brenhiser xt 22117

**Adjustment Counselors**

Bobby Hermesch xt 22129

Heather Harris xt 22119

Arielle Mossberg xt 22124

**METCO Coordinator/Counselor**

Shakur Abdal-Khallaq xt 22115

**Guidance Department Chair**

James Ash xt 22116

**Guidance Administrative Assistant**

Jean McDavitt xt 22134

**Grade Level Office Secretaries**

Grades 9 & 11 - Kara Jahn xt 22241

Grades 10 & 12 - Sarah Concannon xt 22243

**Assistant Principals**

**Grade 11 & Grade 9 (A-J)**

Pierre Jean xt 22242

**Grade 12 & Grade 9 (K-R)**

Alison Coubrough-Argentieri xt 22240

**Grade 10 & Grade 9 (S-Z)**

Mary Kay Alessi xt 22258

## **ACADEMIC PLANNING SUPPORT**

The School Counselor is the student's main resource each year for academic planning, scheduling, and for accessing academic support. The classroom teacher is the main resource for content support and is the primary resource for extra help (note: the classroom teacher also makes the official recommendation of course level for the following year). The School Counselor will help the student track his/her progress toward academic goals and towards meeting all graduation requirements. Students are encouraged to meet with their School Counselor to discuss academic concerns and questions. School Counselors reach out to students on a scheduled and as needed basis.

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## **SEMINARS (9th and 10th GRADE)**

~~The Guidance Department has developed a series of seminars/meetings for 9th and 10th grade students. School Counselors lead the seminars in an effort to meet the students and deliver important information on a variety of topics. It is also the goal of the Guidance Department to get to know students through these programs, so that students will feel more comfortable accessing the many services and resources that are available to them.~~

~~In grade nine, the counselors present four seminars during the first half of grade 9. The topics include: Orientation to Resources and Services, Time Management and Study Skills, Social Emotional Skills, and 10th Grade Course Selection. In grade 10, students participate in a Career Exploration Seminar, presented by the Guidance and Health and Wellness Departments.~~

## **COMMUNITY SERVICE LEARNING (CSL) PROGRAM/VOLUNTEER SERVICE**

Each student's School Counselor is his/her contact person for participation in Needham High School's CSL Program. The Community Service Learning Program is an important part of the educational experience offered at Needham High School. All students are required to complete ~~two~~ community service learning credits (60 hours) as part of their graduation requirement. Each credit equals 30 hours of volunteer or internship service. A minimum of 30 hours must be done with the same organization. Students may complete the entire 60 hours with one organization if they choose, ~~or~~ they may do 30 hours each with two different organizations, **or they may complete 30 hours with one organization, with the second 30 hours being mixed and match among multiple opportunities.** Students may earn up to 2 credits per year with a maximum of 8 credits over four years. ~~Those who earn 8 credits will be acknowledged at Senior Class Day.~~

The mission of the Community Service Learning Program is to broaden students' experiences beyond the traditional classroom by providing opportunities to become involved in volunteerism, service learning, and career exploration. By engaging in such activities, students learn more about themselves, their interests, and the privileges and responsibilities of being a member of a school, local, and global community.

Students may complete their community service learning requirements through volunteer work, an unpaid internship, or a combination of both. Specific requirements for each of these two options are listed below. Students may start their community service learning hours beginning in their 9th grade year. Hours earned prior to that year, including the summer, may not be used. Students may volunteer for a minimum of 30 hours at a non-profit organization of their choosing, or one suggested by their school counselor. Students may not be supervised by a parent or other relative. Students who participate in one week service trips through a non-profit organization, such as Habitat for Humanity or a local church or temple, are eligible to receive one credit for successful completion of a trip. Volunteering without pay at a business, unless it is a pre-approved internship, cannot be used for community service.

We strongly recommend that students receive approval prior to beginning their community service by completing a student proposal form and turning this into their school counselor in the guidance office. This is the best way to ensure that a student's volunteer hours will meet the requirements. ~~With the exception of the TEC internship program, no internship credit can be given without prior approval.~~ The Community Service Learning forms are available in the guidance office and can also be downloaded from the guidance web site or the Career and Community Service Learning page.

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~~Community service opportunities are also posted in the weekly News From the Hill.~~ Students are also welcome to check in with their school counselor to discuss additional ideas, to propose their own project, or to find out more information about a particular organization.

Students receive a grade of “P” (Pass) on their transcript when they have completed their community service requirements. ~~All community service credits should be completed by January of the student’s senior year.~~ Students are encouraged, ~~however,~~ to begin fulfilling this requirement early on in their high school years. Our experience has shown us that many students who actively engage in volunteer service from the beginning of high school sustain their involvement and participate in additional service activities. Additionally, volunteer work can help students begin the process of career exploration.

## REGIONAL HIGH SCHOOL RELATIONSHIPS

Needham is a member of Minuteman Vocational Regional Technical High School in Lexington, MA and Norfolk County Agricultural High School in Walpole, MA. Students most often attend these high schools starting in 9th grade. Needham High School students and families who are interested in learning more about these schools are encouraged to review the websites and speak with their guidance counselors as well.

Minuteman Regional Vocational Technical High School: <http://www.minuteman.org>

Norfolk County Agricultural High School: <http://www.norfolkaggie.org>

## POST-SECONDARY PLANNING

The school counselor is the **main primary** school resource for a student’s postsecondary planning. Although the bulk of the postsecondary planning commences ~~with a comprehensive program~~ in the Spring of Junior year, **students may talk to their school counselor about post-secondary planning at any time during high school.** ~~there are other aspects, which occur as early as grade 9.~~ From self-assessments, interest inventories, career discovery, and some standardized testing, the school counselors, in conjunction with the Personal Counselors, address issues related to healthy development throughout high school. With the resulting personal growth and self-discovery, students are able to enter the postsecondary planning process during junior year in a more meaningful and directed fashion. In grade 11 the school counselors meet with all students in small groups in February to start the postsecondary planning process. Subsequently, the school counselors have at least two individual meetings with their students prior to the close of junior year. By the end of grade 11, the juniors will have written college essays (through English class), will have asked two teachers for confidential recommendations, and will have an initial list of colleges and programs to explore, which is all monitored by the school counselor. Additionally, the Guidance Department offers **three** parent nights during junior year to address the Postsecondary Planning Process, Visiting and Touring Colleges, and Financial Aid. **Junior families also receive two newsletters during junior year.**

In grade 12 the school counselors meet with all students in small groups in September to continue the postsecondary planning process. Subsequently, the school counselors have individual meetings with their students in the fall to track their progress and to support them in their application submissions. In September the school counselors offer an **additional post-secondary related** parent evening ~~with three Directors of Admissions from local colleges.~~ School counselors write a confidential letter of recommendation for each student. Counselors also coordinate visits from over 150 college admissions officers to the high school in the fall of senior year.

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All students and families have access to the comprehensive Guidance Database in **Naviance SCOIR** throughout the Postsecondary Planning Process. They also have access to Guidance Department's Postsecondary website: <http://nhs.needham.k12.ma.us/college/default.htm>

School counselors also use **Google Classroom** to send announcements, reminders, and other important information any time during high school, but particularly during the post-secondary planning process.

## **POST-SECONDARY COLLEGE/UNIVERSITY REQUIREMENTS**

For those considering college, admission requirements should be strongly considered when students plan their programs. Because these requirements vary widely, the best sources of information are the individual school catalogs or individual college and university websites. Students should sample a few catalogs and websites for the types of schools they are considering to make sure that they are covering the requirements. It is better to have more than is needed than to be short a required or recommended course. Resources and direct links to college and university websites can be found on the Guidance Department website.

Typical requirements for **colleges and universities** may differ from the graduation requirements from Needham HS. Students will work with their school counselor throughout high school to help ensure they are making appropriate academic choices both for their current experience in high school, while also looking ahead to post-secondary goals and aspirations. ~~the different types of post-secondary schools to which many Needham High School students apply are:~~

- ~~● Four-Year State and Private Schools: English 4 years. Social Studies 2-3 3-4 years. Mathematics 3-4 years. Sciences 3-4 years (two of which must be lab sciences). World Language 2-4 years. In addition to a student having taken required and recommended courses, admissions' personnel place significant weight on the level of courses taken, grades and grade point average.~~
- ~~● Two-Year State and Private Colleges: Associate degree program (two-year) requirements vary widely from a high school diploma to requirements similar to the four year schools. If a student completes a two-year program, a student may transfer to a four year school.~~
- ~~● Business and Secretarial Schools: A high school diploma is required with courses related to the intended major recommended. Technical Institutes: Requirements vary widely from a high school diploma to physics and four years of college preparatory mathematics.~~
- ~~● Serious consideration is given by Technical Institutes admissions officers and by employers to character, personality, work experience and extracurricular activities both in and out of school.~~

## **COLLEGE AND UNIVERSITY VISITS**

Each year approximately one hundred and fifty representatives of colleges, universities, junior colleges, community colleges, technical schools and other specialized schools visit Needham High School. ~~A schedule of these visits is posted on the Senior Bulletin on the NHS homepage: <http://nhs.needham.k12.ma.us/guidance/sb>. Students and parents are strongly urged to check this each week beginning in September.~~ In addition, our school participates in two TEC College Fairs, in October and April. These fairs provide an opportunity for students to compare one institution with another.

~~Many schools and colleges conduct Open House sessions, Visiting Days, and area interviews, which are publicized through the daily notices, the weekly Senior Bulletin, and the Guidance Office bulletin board. Please check individual schools' and colleges' websites for additional information about such events.~~

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For much more comprehensive information on options and considerations regarding post-secondary plans, you are urged to consult the Post-Secondary Counseling website <http://nhs.needham.k12.ma.us/guidance/Postsecondary>.

## **UNITED STATES ARMED SERVICES VISITS**

Each branch of the Armed Services visit Needham High School to meet with interested students. These visits are set up and advertised by the Guidance Department.

## **COLLEGE TESTING PROGRAM**

~~Booklets~~ Information describing the following testing programs are available online ([www.collegeboard.org](http://www.collegeboard.org) or [www.act.org](http://www.act.org)) or in the ~~Guidance Office Counseling Center~~: PSAT/NMSQT (Preliminary SAT/National Merit Scholarship Qualifying Test), the SAT Program, ~~which includes the SAT Reasoning Tests (Critical Reading, Mathematics, and Writing), the SAT subject tests (discontinued January 2021)~~, the Advanced Placement Exams and the ACT Program. For students who speak English as a second language, the TOEFL (Test of English as a Foreign Language) may also be necessary. Students should consult college catalogs to determine which tests are required or recommended.

A typical testing pattern for students is as follows:

- **Junior Year**

The PSAT/NMSQT is administered in October and is comparable to the SAT. This test is designed primarily for juniors. The colleges do not recognize PSAT/NMSQT for admission requirements. The results, however, are valuable to both the student and counselor when discussing possible choices of colleges. Students whose scores are high enough (typically 1% of population) become semifinalists for National Merit Scholarships by taking this examination. The SAT is usually taken by juniors in the spring of the junior year. AP Exams will be administered in the spring of a student's Junior or Senior year to those students desiring advanced placement or college credits upon being admitted to the college of their choice.

- **Senior Year**

Students may wish to retake the SAT during the fall and winter of their senior year. The ACT (with writing) is another test used by colleges for admission and is as widely accepted as the SAT. Needham High School participates in the Advanced Placement Program (AP) of the College Entrance Examination Board. Advanced Placement Courses are the equivalent of college courses. Students who select AP courses should plan to take the AP examinations. Although Needham High School grants credit towards graduation for AP courses, college credit for AP courses may be granted individually to students by colleges participating in the College Entrance Examination Board. AP Exams will be administered in the spring of the senior year to those students desiring advanced placement or college credits upon being admitted to the college of their choice. If a student's results meets the minimum standard as set by the College Board and a participating college, students may be able earn college credit. The college a student is planning on attending makes this decision regarding awarding college credit based on AP scores. Most colleges do participate in the Advanced Placement Program.

## **STANDARDIZED TESTING AND THE STUDENT RECEIVING SPECIAL EDUCATION SERVICES**

Students who have a documented disability may be eligible for accommodations on College Board tests such as

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the PSAT, SAT, ACT, and the Advanced Placement (AP) Exams. More information can be found at <http://sat.collegeboard.org/register/for-students-with-disabilities>. Students should work with their guidance counselor or special education liaison to ensure the disability documentation required for the application is complete and substantiates the need for the accommodations being requested. Applications may be completed online or on paper. It takes about 7 weeks from the College Board's receipt of all documentation for a determination to be made. Students are encouraged to make applications for accommodations for College Board tests during their 9th grade year if possible. Students who receive accommodations can use them throughout their high school careers. Once approved, a student does not need to reapply.





## Needham School Committee

January 24, 2023

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Agenda Item:    **Discussion**

**Athletic Program Update**

Background Information:

- Director of Athletics Dan Lee will present a video update on the Athletic Programs.

Person(s) Available for Presentation:

Dan Lee, Director of Athletics  
Aaron Sicotte, Principal of Needham High School

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## Needham School Committee

January 24, 2023

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Agenda Item:     **Action**

### **Vote on FY24 School Operating Budget Recommendation**

Background information:

- The final FY24 Budget proposal is attached.

Action Recommended:

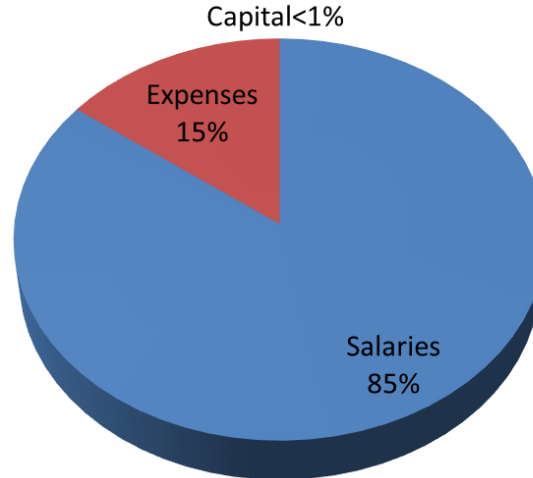
Upon recommendation of the Superintendent, that the Needham School Committee approves the FY24 School Operating Budget Recommendation in the amount of \$92,155,973 as submitted.

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## FY 2024 School Operating Budget

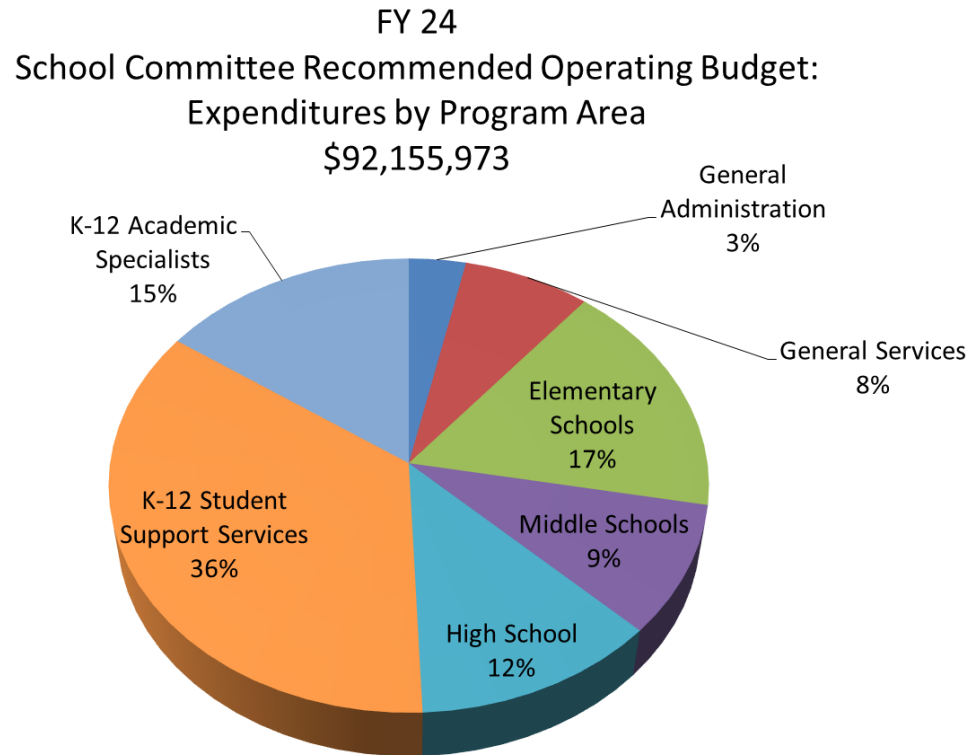
### Expenditures by Line Item Category:

**FY 2024**  
**School Committee Recommended Operating**  
**Budget Expenditures by Line Item Category**  
**\$92,155,973**



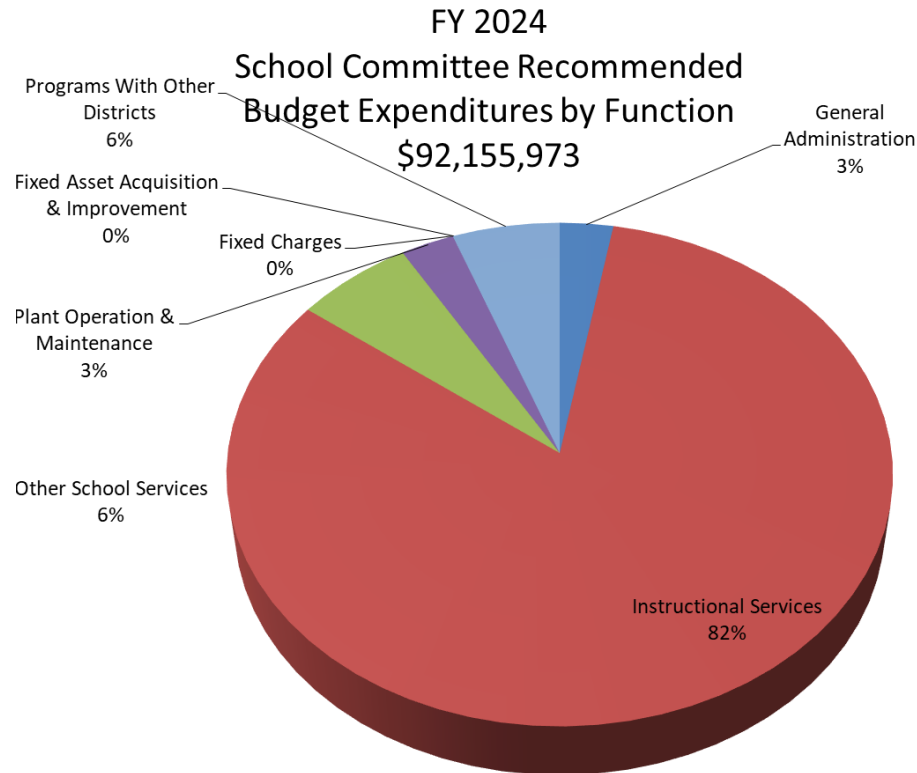
<u>Category/ Line Item</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
Salaries	64,007,889	68,046,138	70,219,803	74,493,899	79,544,187	78,553,740	4,059,841	5.4%	85.2%
Expenses	11,464,361	11,583,285	11,283,155	12,783,897	14,144,015	13,602,233	818,336	6.4%	14.8%
Capital Outlay	81,378	18,805	125,865	-	-	-	-	0.0%	0.0%
<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

**Expenditures by Program Area/ Department:**



<u>Program Area/Department</u>	<u>FY20 Actuals</u>	<u>FY21 Actual</u>	<u>FY22 Actual</u>	<u>FY23 Budget</u>	<u>FY24 Reg</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/(Dec)</u>	<u>% FY24 TL</u>
General Administration	2,790,789	2,753,189	3,170,079	2,975,151	3,174,819	3,108,347	133,196	4.5%	3.4%
General Services	5,211,051	6,290,991	5,904,006	6,585,719	7,064,560	6,952,990	367,271	5.6%	7.5%
Elementary Schools	13,722,849	14,402,537	15,014,355	15,458,786	15,776,455	15,674,243	215,457	1.4%	16.8%
Middle Schools	7,260,905	7,717,398	8,053,408	8,324,054	8,553,932	8,538,380	214,326	2.6%	9.1%
High School	9,250,339	9,542,582	10,170,307	10,680,830	11,225,419	11,190,501	509,671	4.8%	12.0%
K-12 Student Support Services	25,849,033	27,260,782	26,450,981	29,886,359	33,331,030	32,617,887	2,731,528	9.1%	35.6%
K-12 Academic Specialists	11,468,660	11,680,750	12,865,688	13,366,899	14,561,988	14,073,626	706,727	5.3%	15.5%
<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

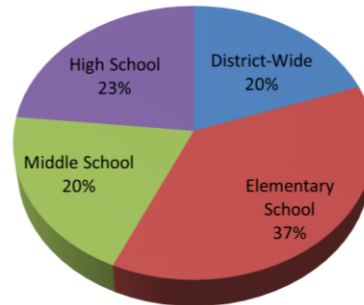
## Expenditures by Functional Area:



<u>Expenditure Classification</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Rec</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/(Dec)</u>	<u>% FY24 TL</u>
General Administration (1000)	3,992,989	4,031,824	3,529,906	4,429,892	2,656,872	2,590,400	(1,839,492)	-41.5%	2.8%
Instructional Services (2000)	61,559,347	65,211,075	68,157,430	72,084,041	77,374,061	76,016,474	3,932,433	5.5%	82.5%
Other School Services (3000)	4,220,317	4,658,511	4,823,711	5,171,296	5,834,625	5,726,455	555,159	10.7%	6.2%
Operation & Maintenance of Plant (4000)	410,011	402,900	1,326,229	573,527	2,610,640	2,610,640	2,037,113	355.2%	2.8%
Fixed Charges (5000)	14,500	14,500	14,500	2,000	-	-	(2,000)	-100.0%	0.0%
Acquisition, Imp. & Repl. of Fixed Assets (7000)	81,378	18,805	125,865	-	-	-	-	0.0%	0.0%
<u>Programs With Other School Districts (9000)</u>	<u>5,205,088</u>	<u>5,310,611</u>	<u>3,651,183</u>	<u>5,017,043</u>	<u>5,212,005</u>	<u>5,212,005</u>	<u>194,962</u>	<u>3.9%</u>	<u>5.7%</u>
<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

## Expenditures by Level:

FY 2024  
School Committee Recommended Operating Budget  
Expenditures by Level  
\$92,155,973



<u>Expenditures by Level</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
District-Wide	14,435,707	15,169,003	14,038,993	17,066,895	18,365,582	18,067,974	1,001,079	5.9%	19.6%
<u>PreK- Elementary</u>									
Broadmeadow	5,624,500	5,947,036	6,100,724	6,244,827	6,728,433	6,555,219	310,392	5.0%	7.1%
Eliot	4,450,344	4,831,134	5,118,816	5,407,336	5,674,135	5,575,657	168,321	3.1%	6.1%
Hillside	5,934,532	6,371,176	6,787,150	6,957,965	7,286,369	7,057,068	99,103	1.4%	7.7%
Mitchell	4,660,573	4,892,687	5,266,732	5,210,998	5,810,853	5,694,109	483,111	9.3%	6.2%
Newman	6,548,855	6,817,558	7,170,991	7,310,279	7,912,473	7,774,459	464,180	6.3%	8.4%
<u>Preschool</u>	<u>1,275,701</u>	<u>1,497,053</u>	<u>1,300,994</u>	<u>1,365,810</u>	<u>1,606,001</u>	<u>1,597,101</u>	<u>231,291</u>	<u>16.9%</u>	<u>1.7%</u>
Totals	28,494,505	30,356,644	31,745,407	32,497,215	35,018,264	34,253,613	1,756,398	5.4%	37.2%
<u>Middle School</u>									
High Rock	5,534,835	5,403,346	5,891,510	6,117,478	6,363,658	6,301,456	183,978	3.0%	6.8%
<u>Pollard</u>	<u>9,529,614</u>	<u>10,360,983</u>	<u>10,822,218</u>	<u>11,197,430</u>	<u>12,136,787</u>	<u>12,000,175</u>	<u>802,745</u>	<u>7.2%</u>	<u>13.0%</u>
Totals	15,064,449	15,764,329	16,713,728	17,314,908	18,500,445	18,301,631	986,723	5.7%	19.9%
<u>High School</u>	<u>17,558,966</u>	<u>18,358,254</u>	<u>19,130,696</u>	<u>20,398,780</u>	<u>21,803,911</u>	<u>21,532,755</u>	<u>1,133,975</u>	<u>5.6%</u>	<u>23.4%</u>
<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

## Expenditures by Object Detail:

<u>Code</u>	<u>Category/ Line Item</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/(Dec)</u>	<u>% FY24 TL</u>
	<b><u>Salaries:</u></b>									
51**	Salaries	64,007,889	68,046,138	70,219,803	74,493,901	79,544,187	78,553,740	4,059,839	5.4%	85.2%
	Subtotal	64,007,889	68,046,138	70,219,803	74,493,899	79,544,187	78,553,740	4,059,841	5.4%	85.2%
	<b><u>Purch Svc/ Expense</u></b>									
524*, 525*	Repairs & Maintenance	66,711	55,560	70,755	109,645	188,395	145,145	35,500	32.4%	0.2%
527*	Rentals & Leases	11,224	-	5,303	7,100	7,100	7,100	-	0.0%	0.0%
5300	Professional & Technical Svcs.	706,324	658,986	855,351	543,106	567,499	567,499	24,393	4.5%	0.6%
5303	P&T - Seminars & Training	104,511	47,634	90,104	108,899	134,700	120,750	11,851	10.9%	0.1%
5305	P&T - Software & License Fees	514,806	472,591	610,294	603,974	842,961	842,961	238,987	39.6%	0.9%
5309	P&T - Licensed Professionals	-	-	-	-	-	-	-	0.0%	0.0%
5311	Advertising	15,118	16,100	3,485	15,000	5,000	5,000	(10,000)	-66.7%	0.0%
5320	Tuition	5,305,087	5,412,942	3,791,861	5,117,043	5,318,005	5,312,005	194,962	3.8%	5.8%
533*	Transportation	2,034,405	1,826,387	2,134,084	2,204,434	2,629,892	2,629,892	425,458	19.3%	2.9%
5340	Communication	-	-	22,946	2,000	16,000	16,000	14,000	700.0%	0.0%
5341	Mail/Postage	46,934	45,068	46,237	21,000	46,500	46,500	25,500	121.4%	0.1%
5342	Landline	39,449	38,045	4,300	5,000	5,000	5,000	-	100.0%	0.0%
5343&5344	Wireless Communications	64,205	47,990	40,171	78,583	78,583	78,583	-	0.0%	0.1%
5345	Printing & Binding	3,245	180	5,483	10,146	10,146	10,146	-	0.0%	0.0%
5380	Other Services	752,242	710,587	1,106,654	972,603	1,058,819	992,079	19,476	2.0%	1.1%
5381	Other Purchased Services - COVID	-	302,313	164,779	-	-	-	-	0.0%	0.0%
5382	Other Purchased Services - Unit B	-	-	-	6,750	6,250	6,250	(500)	100.0%	0.0%
542*	Office Supplies	40,414	53,036	38,545	61,613	46,284	46,034	(15,579)	-25.3%	0.0%
5490	Food & Food Service Supplies	-	-	-	-	-	-	-	0.0%	0.0%
5500	Medical & Surgical Supplies	4,594	631	13,808	107,029	(172,019)	(172,019)	(279,048)	-260.7%	-0.2%
5510	Educational Supplies	456,861	652,552	517,349	549,274	563,605	558,605	9,331	1.7%	0.6%
5511	Testing Supplies	16,993	24,636	39,345	22,396	22,396	22,396	-	0.0%	0.0%
5512	Instructional Classroom Reference	156,452	56,127	177,327	220,941	229,441	229,441	8,500	3.8%	0.2%

## Expenditures by Object Detail (cont.):

<u>Code</u>	<u>Category/ Line Item</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
5517	Textbooks/ Workbooks	42,122	15,115	15,231	128,312	226,312	136,312	8,000	6.2%	0.1%
5522	Instructional Equipment	36,675	20,553	45,741	89,316	94,416	89,316	-	0.0%	0.1%
5523	Instructional Hardware	-	-	-	-	-	-	-	0.0%	0.0%
5524	Instructional Software	97,476	99,747	121,260	135,912	135,912	135,912	-	0.0%	0.1%
5525	Instructional Technology	699,948	419,949	927,627	1,139,938	1,460,488	1,227,438	87,500	7.7%	1.3%
5526	Instructional Tech Supplies/Toner	46,369	17,633	47,928	108,135	108,135	108,135	-	0.0%	0.1%
5580	All Other Supplies	1,114	144	-	83,000	83,000	83,000	-	0.0%	0.1%
5590	All Other Supplies - COVID	-	340,436	7,210	-	-	-	-	0.0%	0.0%
5710	In-State Travel/Conferences	20,971	24,561	16,285	44,219	37,419	37,419	(6,800)	-15.4%	0.0%
5720	Out-State Travel/Conferences	4,879	-	8,153	12,969	12,969	12,969	-	0.0%	0.0%
5730	Dues/Memberships	64,505	97,582	76,403	91,364	92,364	92,364	1,000	1.1%	0.1%
5740	Insurance Premiums	2,000	1,042	-	2,000	2,000	2,000	-	0.0%	0.0%
5780	Other Expenses	108,727	101,671	155,305	114,841	218,588	140,146	25,305	22.0%	0.2%
5783	Other Expenses - School COVID	-	23,487	123,634	-	-	-	-	0.0%	0.0%
<u>5784</u>	<u>Other Expenses - Unit B</u>	<u>-</u>	<u>-</u>	<u>198</u>	<u>67,355</u>	<u>67,855</u>	<u>67,855</u>	<u>500</u>	<u>100.0%</u>	<u>0.1%</u>
	Subtotal	11,464,361	11,583,285	11,283,155	12,783,897	14,144,015	13,602,233	818,336	6.4%	14.8%
	<b><u>Capital Outlay</u></b>									
5820	Buildings	-	-	82,967	-	-	-	-	0.0%	0.0%
5850,5870	Equipment	64,518	14,403	18,079	-	-	-	-	0.0%	0.0%
5851	Motor Vehicles	16,860	4,402	24,820	-	-	-	-	0.0%	0.0%
<u>5856</u>	<u>Capital Technology</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>0.0%</u>	<u>0.0%</u>
	Subtotal	81,378	18,805	125,865	-	-	-	-	0.0%	0.0%
	<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>



## Expenditures by Program Area/Department Detail:

<u>Program/Department</u>	<u>FY20 Actuals</u>	<u>FY21 Actual</u>	<u>FY22 Actual</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
<b><u>General Administration</u></b>									
School Committee	327,012	388,930	514,325	123,071	123,071	123,071	-	0.0%	0.1%
Superintendent	411,253	475,070	536,606	600,690	631,193	631,193	30,503	5.1%	0.7%
Personnel Resources	715,376	662,741	727,093	775,809	833,843	798,843	23,034	3.0%	0.9%
Student Development	437,861	301,986	321,395	336,291	353,497	353,497	17,206	5.1%	0.4%
Student Learning	279,381	277,633	341,866	305,168	274,011	274,011	(31,157)	-10.2%	0.3%
Financial Operations	619,906	646,829	728,792	834,122	959,203	927,731	93,609	11.2%	1.0%
External Funding	-	-	-	-	-	-	-	0.0%	0.0%
Subtotal	2,790,789	2,753,189	3,170,079	2,975,151	3,174,819	3,108,347	133,196	4.5%	3.4%
<b><u>General Services</u></b>									
Professional Development	278,360	225,629	296,180	381,381	416,935	386,935	5,554	1.5%	0.4%
Employee Assistance Program	10,500	18,000	18,000	18,000	18,000	18,000	-	0.0%	0.0%
Staff 504 Accomodations	688	35	-	1,000	1,000	1,000	-	0.0%	0.0%
Lane Changes/Sick Buy Back	-	-	-	341,102	375,752	375,752	34,650	10.2%	0.4%
Substitutes	297,525	250,967	376,841	575,875	641,705	605,761	29,886	5.2%	0.7%
Curriculum Development	83,964	136,914	163,039	210,541	226,648	226,648	16,107	7.7%	0.2%
General Supplies, Services & Equip.	504,782	1,794,009	740,079	400,218	136,965	105,965	(294,253)	-73.5%	0.1%
Remote Learning	-	-	-	-	-	-	-	0.0%	0.0%
Production Center/Mail Room	119,432	140,872	151,040	123,212	156,630	156,630	33,418	27.1%	0.2%
Administrative Technology	1,542,559	1,606,932	1,608,429	1,854,256	1,928,263	1,928,263	74,007	4.0%	2.1%
<u>Transportation</u>	<u>2,373,241</u>	<u>2,117,633</u>	<u>2,550,399</u>	<u>2,680,134</u>	<u>3,162,662</u>	<u>3,148,036</u>	<u>467,902</u>	<u>17.5%</u>	<u>3.4%</u>
Subtotal	5,211,051	6,290,991	5,904,006	6,585,719	7,064,560	6,952,990	367,271	5.6%	7.5%
<b><u>Elementary Schools</u></b>									
Broadmeadow Elementary	3,036,313	3,086,813	3,151,054	3,232,582	3,234,917	3,219,200	(13,382)	-0.4%	3.5%
Eliot Elementary	2,187,181	2,430,873	2,553,159	2,677,536	2,670,021	2,655,644	(21,892)	-0.8%	2.8%
Sunita Williams Elementary	2,711,908	2,903,461	3,037,527	3,099,740	3,121,621	3,080,601	(19,139)	-0.6%	3.3%
Mitchell Elementary	2,456,904	2,679,484	2,718,701	2,754,850	2,926,384	2,909,663	154,813	5.6%	3.1%
Newman Elementary	3,330,543	3,301,906	3,553,914	3,694,078	3,823,512	3,809,135	115,057	3.1%	4.1%
Subtotal Elementary	13,722,849	14,402,537	15,014,355	15,458,786	15,776,455	15,674,243	215,457	1.4%	16.8%
<b><u>Middle Schools</u></b>									
High Rock School	2,520,745	2,626,191	2,765,068	2,826,314	2,846,284	2,844,363	18,049	0.6%	3.0%
Pollard Middle School	4,740,160	5,091,207	5,288,340	5,497,740	5,707,648	5,694,017	196,277	3.6%	6.1%
Subtotal Middle	7,260,905	7,717,398	8,053,408	8,324,054	8,553,932	8,538,380	214,326	2.6%	9.1%
<b><u>High School</u></b>									
High School	8,734,938	8,992,341	9,481,318	9,939,555	10,417,070	10,382,152	442,597	4.5%	11.1%
High School Athletics	515,401	550,241	688,989	741,275	808,349	808,349	67,074	9.0%	0.9%
Subtotal High School	9,250,339	9,542,582	10,170,307	10,680,830	11,225,419	11,190,501	509,671	4.8%	12.0%

## Expenditures by Program Area/Department Detail (cont.):

<u>Program/Department</u>	<u>FY20 Actuals</u>	<u>FY21 Actual</u>	<u>FY22 Actual</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/(Dec)</u>	<u>% FY24 TL</u>
<b><u>K-12 Student Support Services</u></b>									
Guidance	3,162,426	3,244,271	3,418,356	3,675,017	3,987,955	3,957,288	282,271	7.7%	4.3%
Psychology	489,057	524,743	573,455	584,023	660,992	660,992	76,969	13.2%	0.7%
Health/Nursing	1,026,368	1,081,680	1,245,382	1,218,976	1,557,298	1,473,104	254,128	20.8%	1.7%
Special Education	12,346,315	13,532,215	13,283,389	14,765,665	16,495,705	16,251,193	1,485,528	10.1%	17.6%
SPED Out of District Tuition	5,203,141	5,306,611	3,645,695	4,998,773	5,193,735	5,193,735	194,962	3.9%	5.5%
SPED Extended School Year	260,337	228,814	292,707	244,365	313,229	290,233	45,868	18.8%	0.3%
SPED Professional Services	722,671	630,372	825,182	808,184	868,184	868,184	60,000	7.4%	0.9%
SPED Home Hospital Tutoring	-	-	38,973	15,000	30,893	30,893	15,893	106.0%	0.0%
Vocational Education	-	-	-	-	-	-	-	0.0%	0.0%
Regular Education Tuition	1,946	4,000	5,488	18,270	18,270	18,270	-	0.0%	0.0%
Regular Education Home Hospital	-	-	12,725	15,000	23,500	23,500	8,500	56.7%	0.0%
English Language Learners (ELL)	601,126	626,036	701,210	744,972	903,548	830,710	85,738	11.5%	1.0%
Translation & Interpretation Svcs.	31,696	32,905	59,180	38,800	40,300	40,300	1,500	3.9%	0.0%
Reading Special Instruction	1,413,331	1,368,200	1,607,261	1,684,247	1,891,362	1,796,513	112,266	6.7%	2.0%
Math Special Instruction	558,736	647,702	708,948	995,549	1,145,731	1,037,899	42,350	4.3%	1.2%
Summer Bridge Program	2,953	-	575	37,740	127,946	103,250	65,510	173.6%	0.1%
Student 504 Compliance	25,243	31,609	30,697	38,000	68,558	38,000	-	0.0%	0.1%
<u>K-12 Attendance</u>	<u>3,687</u>	<u>1,624</u>	<u>1,759</u>	<u>3,778</u>	<u>3,824</u>	<u>3,824</u>	<u>46</u>	<u>1.2%</u>	<u>0.0%</u>
Subtotal	25,849,033	27,260,782	26,450,981	29,886,359	33,331,030	32,617,887	2,731,528	9.1%	35.6%
<b><u>K-12 Academic Specialists</u></b>									
Science Center	413,947	428,347	465,927	479,362	504,247	487,902	8,540	1.8%	0.5%
Computer Education	935,310	527,051	950,222	1,182,419	1,532,419	1,282,419	100,000	8.5%	1.6%
Media and Digital Learning	2,201,547	2,370,138	2,544,395	2,688,984	2,833,226	2,833,226	144,242	5.4%	3.0%
Physical Education	1,905,210	1,933,559	2,092,201	2,144,696	2,300,781	2,258,955	114,259	5.3%	2.5%
Health Education	65,405	67,515	78,095	84,724	90,447	90,447	5,723	6.8%	0.1%
K-12 Health & Phys Education	138,591	155,422	109,813	113,866	119,780	119,780	5,914	5.2%	0.1%
Fine Arts (Art)	1,571,707	1,612,329	1,744,805	1,612,969	1,755,402	1,746,913	133,944	8.3%	1.9%
Performing Arts (Music)	1,371,201	1,457,723	1,498,315	1,586,752	1,754,863	1,634,826	48,074	3.0%	1.9%
K-12 Fine & Performing Arts	183,989	188,990	194,274	250,372	251,665	251,665	1,293	0.5%	0.3%
World Languages	2,544,636	2,797,281	3,041,894	3,044,772	3,265,279	3,213,613	168,841	5.5%	3.5%
6-12 World Language Director	137,117	142,395	145,748	177,983	153,879	153,879	(24,104)	-13.5%	0.2%
Subtotal	11,468,660	11,680,750	12,865,688	13,366,899	14,561,988	14,073,626	706,727	5.3%	15.5%
<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

## Expenditures by Functional Area Detail:

<u>Program/Department</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Reg</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/(Dec)</u>	<u>% FY24 TL</u>
<b>General Administration (1000)</b>									
School Committee (1110)	9,309	8,807	9,652	12,750	12,750	12,750	-	0.0%	0.0%
District Administration (1200)	1,669,788	1,616,164	1,774,724	1,890,762	1,892,360	1,892,360	1,598	0.1%	2.1%
Finance & Administrative Services (1400)	2,313,892	2,406,853	1,745,530	1,525,166	751,761	685,289	(839,877)	-55.1%	0.7%
Subtotal	3,992,989	4,031,824	3,529,906	3,428,678	2,656,872	2,590,400	(838,278)	-24.4%	2.8%
<b>Instructional Services (2000)</b>									
District-Wide Academic Leadership (2100)	3,457,275	3,780,301	3,822,063	3,992,208	4,346,525	4,330,180	337,972	8.5%	4.7%
School Building Leadership (2200)	4,110,482	4,309,576	4,449,752	4,575,419	4,751,187	4,776,761	201,342	4.4%	5.2%
Instruction - Teaching Services (2300)	48,202,530	50,821,001	52,823,901	56,146,942	59,884,673	59,007,316	2,860,374	5.1%	64.0%
Instructional Materials & Equipment (2400)	2,325,391	2,727,918	3,278,349	3,298,470	4,065,843	3,607,051	308,581	9.4%	3.9%
Guidance, Counseling & Testing Services (2700)	2,975,315	3,048,877	3,212,628	3,497,478	3,664,841	3,634,174	136,696	3.9%	3.9%
Psychological Services (2800)	488,354	523,402	570,737	584,023	660,992	660,992	76,969	13.2%	0.7%
Subtotal	61,559,347	65,211,075	68,157,430	72,094,540	77,374,061	76,016,474	3,921,934	5.4%	82.5%
<b>Other School Services (3000)</b>									
Attendance & Parent Liaison Services (3100)	3,687	1,624	1,759	32,578	32,624	32,624	46	0.1%	0.0%
Health Services (3200)	1,044,174	1,086,081	1,260,432	1,327,550	1,387,500	1,303,306	(24,244)	-1.8%	1.4%
Student Transportation Services (3300)	2,373,241	2,117,633	2,550,399	2,680,134	3,162,662	3,148,036	467,902	17.5%	3.4%
Food Services (3400)	-	605,082	-	-	-	-	-	0.0%	0.0%
Athletic Services (3510)	515,401	550,241	688,989	741,275	808,349	808,349	67,074	9.0%	0.9%
Other Student Activities (3520)	283,814	297,850	322,132	379,259	443,490	434,140	54,881	14.5%	0.5%
School Security (3600)	-	-	-	-	-	-	-	#DIV/0!	0.0%
Subtotal Middle	4,220,317	4,658,511	4,823,711	5,160,796	5,834,625	5,726,455	565,659	11.0%	6.2%
<b>Operation &amp; Maintenance of Plant (4000)</b>									
Custodial Services (4110)	-	-	-	80,000	80,000	80,000	-	0.0%	0.1%
Heating of Buildings (4120)	-	-	-	-	-	-	-	0.0%	0.0%
Utility Services (4130)	-	5,000	300	5,000	5,000	5,000	-	100.0%	0.0%
Maintenance of Grounds (4210)	-	-	-	-	-	-	-	0.0%	0.0%
Maintenance of Buildings (4220)	-	-	-	-	-	-	-	0.0%	0.0%
Maintenance of Equipment (4230)	-	-	-	-	-	-	-	0.0%	0.0%
Extraordinary Maintenance (4300)	-	-	-	-	-	-	-	0.0%	0.0%
Networking & Telecommunications (4400)	212,294	216,723	1,152,777	1,208,879	2,244,528	2,244,528	1,035,649	85.7%	2.4%
Technology Maintenance (4450)	197,717	181,177	173,152	280,862	281,112	281,112	250	0.1%	0.3%
Subtotal	410,011	402,900	1,326,229	1,574,741	2,610,640	2,610,640	1,035,899	65.8%	2.8%

## Expenditures by Functional Area Detail (cont.):

<u>Program/Department</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
<b>Fixed Charges (5000)</b>									
Employer Retirement (5100)	14,500	14,500	14,500	2,000	-	-	(2,000)	-100.0%	0.0%
<b>Subtotal</b>	14,500	14,500	14,500	2,000	-	-	(2,000)	-100.0%	0.0%
<b>Community Services (6000)</b>									
<u>Civic Activities (6200)</u>	70,000	-	-	-	-	-	-	0.0%	0.0%
Subtotal	70,000	-	-	-	-	-	-	0.0%	0.0%
<b>Acquisition, Improvement &amp; Replacement of Fixed Assets (7000)</b>									
Acquisition & Improvement of Sites (7100)	-	-	2,967	-	-	-	-	0.0%	0.0%
Acquisition & Improvement of Buildings (7200)	-	-	80,000	-	-	-	-	0.0%	0.0%
Acquisition & Improvement of Equipment (7300)	64,518	14,403	18,079	-	-	-	-	0.0%	0.0%
Replacement of Equipment (7400)	-	-	-	-	-	-	-	0.0%	0.0%
Acquisition of Motor Vehicles (7500)	16,860	4,402	24,820	-	-	-	-	0.0%	0.0%
<u>Replacement of Motor Vehicles (7600)</u>	-	-	-	-	-	-	-	0.0%	0.0%
Subtotal	81,378	18,805	125,865	-	-	-	-	0.0%	0.0%
<b>Programs With Other School Districts (9000)</b>									
Programs with Other Districts in Mass (9100)	47,386	54,731	71,545	23,270	219,877	219,877	196,607	844.9%	0.2%
Tuition to Out-of-State Schools (9200)	314,508	133,676	17,469	61,282	-	-	(61,282)	-100.0%	0.0%
Tuition to Non-Public Schools (9300)	3,537,760	4,247,761	3,167,186	4,063,125	3,591,318	3,591,318	(471,807)	-11.6%	3.9%
<u>Tuition to Collaboratives (9400)</u>	1,305,434	874,443	394,983	869,366	1,400,810	1,400,810	531,444	61.1%	1.5%
Subtotal	5,205,088	5,310,611	3,651,183	5,017,043	5,212,005	5,212,005	194,962	3.9%	5.7%
<b>GRAND TOTAL</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

## Expenditures by Level, School and Line Item Category:

### District-Wide Expenditures

<u>District Expenditures</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
Salaries	5,705,409	6,565,817	6,425,375	7,256,677	7,836,267	7,687,871	431,194	5.9%	8.3%
Purchase of Service	8,648,920	8,584,380	7,505,831	9,810,217	10,529,315	10,380,103	569,886	5.8%	11.3%
Capital Outlay	81,378	18,805	107,786	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>14,435,707</b>	<b>15,169,003</b>	<b>14,038,993</b>	<b>17,066,894</b>	<b>18,365,582</b>	<b>18,067,974</b>	<b>1,001,080</b>	<b>5.9%</b>	<b>19.6%</b>

### Elementary Expenditures

<u>Broadmeadow Expenditures</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
Salaries	5,364,658	5,721,722	5,687,296	5,928,981	6,334,130	6,210,666	281,685	4.8%	6.7%
Purch of Svc/ Expense	259,842	225,313	413,428	317,346	394,303	344,553	27,207	8.6%	0.4%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>5,624,500</b>	<b>5,947,036</b>	<b>6,100,724</b>	<b>6,246,327</b>	<b>6,728,433</b>	<b>6,555,219</b>	<b>308,892</b>	<b>4.9%</b>	<b>7.1%</b>
<u>Eliot Expenditures</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
Salaries	4,234,083	4,582,355	4,810,711	5,157,561	5,349,451	5,302,023	144,462	2.8%	5.8%
Purch of Svc/ Expense	216,261	248,779	308,106	248,277	324,684	273,634	25,357	10.2%	0.3%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>4,450,344</b>	<b>4,831,134</b>	<b>5,118,816</b>	<b>5,405,838</b>	<b>5,674,135</b>	<b>5,575,657</b>	<b>169,819</b>	<b>3.1%</b>	<b>6.1%</b>
<u>Williams Expenditures</u>	<u>FY20 Actuals</u>	<u>FY21 Actuals</u>	<u>FY22 Actuals</u>	<u>FY23 Budget</u>	<u>FY24 Req</u>	<u>FY24 Rec</u>	<u>\$ Inc/(Dec) Over FY23</u>	<u>% Inc/ (Dec)</u>	<u>% FY24 TL</u>
Salaries	5,750,589	6,091,340	6,407,748	6,703,769	6,939,495	6,776,314	72,545	1.1%	7.4%
Purch of Svc/ Expense	183,943	279,837	379,402	254,196	346,874	280,754	26,558	10.4%	0.3%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>5,934,532</b>	<b>6,371,176</b>	<b>6,787,150</b>	<b>6,957,965</b>	<b>7,286,369</b>	<b>7,057,068</b>	<b>99,103</b>	<b>1.4%</b>	<b>7.7%</b>

**Expenditures by Level, School and Line Item Category (cont.):**

<b><u>Mitchell Expenditures</u></b>	<b><u>FY20 Actuals</u></b>	<b><u>FY21 Actuals</u></b>	<b><u>FY22 Actuals</u></b>	<b><u>FY23 Budget</u></b>	<b><u>FY24 Req</u></b>	<b><u>FY24 Rec</u></b>	<b><u>\$ Inc/(Dec) Over FY23</u></b>	<b><u>% Inc/ (Dec)</u></b>	<b><u>% FY24 TL</u></b>
Salaries	4,422,986	4,652,992	4,929,102	4,968,156	5,491,348	5,424,354	456,198	9.2%	5.9%
Purch of Svc/ Expense	237,587	239,694	337,629	242,842	319,505	269,755	26,913	11.1%	0.3%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>4,660,573</b>	<b>4,892,687</b>	<b>5,266,732</b>	<b>5,210,998</b>	<b>5,810,853</b>	<b>5,694,109</b>	<b>483,111</b>	<b>9.3%</b>	<b>6.2%</b>
<b><u>Newman Expenditures</u></b>	<b><u>FY20 Actuals</u></b>	<b><u>FY21 Actuals</u></b>	<b><u>FY22 Actuals</u></b>	<b><u>FY23 Budget</u></b>	<b><u>FY24 Req</u></b>	<b><u>FY24 Rec</u></b>	<b><u>\$ Inc/(Dec) Over FY23</u></b>	<b><u>% Inc/ (Dec)</u></b>	<b><u>% FY24 TL</u></b>
Salaries	7,452,402	7,954,449	8,000,443	8,356,172	9,117,730	9,029,466	673,294	8.1%	9.8%
Purch of Svc/ Expense	372,154	360,162	471,542	318,912	400,744	342,094	23,182	7.3%	0.4%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>7,824,556</b>	<b>8,314,611</b>	<b>8,471,985</b>	<b>8,675,084</b>	<b>9,518,474</b>	<b>9,371,560</b>	<b>696,476</b>	<b>8.0%</b>	<b>10.2%</b>
-									
<b><u>Subtotal Elementary Expenditures</u></b>	<b><u>FY20 Actuals</u></b>	<b><u>FY21 Actuals</u></b>	<b><u>FY22 Actuals</u></b>	<b><u>FY23 Budget</u></b>	<b><u>FY24 Req</u></b>	<b><u>FY24 Rec</u></b>	<b><u>\$ Inc/(Dec) Over FY23</u></b>	<b><u>% Inc/ (Dec)</u></b>	<b><u>% FY24 TL</u></b>
Salaries	27,224,718	29,002,858	29,835,300	31,114,639	33,232,154	32,742,823	1,628,184	5.2%	35.5%
Purch of Svc/ Expense	1,269,787	1,353,786	1,910,106	1,381,573	1,786,110	1,510,790	129,217	9.4%	1.6%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>28,494,505</b>	<b>30,356,644</b>	<b>31,745,407</b>	<b>32,496,212</b>	<b>35,018,264</b>	<b>34,253,613</b>	<b>1,757,401</b>	<b>5.4%</b>	<b>37.2%</b>

**Middle School Expenditures**

<b><u>High Rock Expenditures</u></b>	<b><u>FY20 Actuals</u></b>	<b><u>FY21 Actuals</u></b>	<b><u>FY22 Actuals</u></b>	<b><u>FY23 Budget</u></b>	<b><u>FY24 Req</u></b>	<b><u>FY24 Rec</u></b>	<b><u>\$ Inc/(Dec) Over FY23</u></b>	<b><u>% Inc/ (Dec)</u></b>	<b><u>% FY24 TL</u></b>
Salaries	5,038,102	5,171,207	5,443,756	5,626,453	5,828,112	5,797,160	170,707	3.0%	6.3%
Purch of Svc/ Expense	496,733	232,139	447,754	491,025	535,546	504,296	13,271	2.7%	0.5%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>5,534,835</b>	<b>5,403,346</b>	<b>5,891,510</b>	<b>6,117,478</b>	<b>6,363,658</b>	<b>6,301,456</b>	<b>183,978</b>	<b>3.0%</b>	<b>6.8%</b>

**Expenditures by Level, School and Line Item Category (cont.):**

<b>Pollard Expenditures</b>	<b>FY20 Actuals</b>	<b>FY21 Actuals</b>	<b>FY22 Actuals</b>	<b>FY23 Budget</b>	<b>FY24 Reg</b>	<b>FY24 Rec</b>	<b>\$ Inc/(Dec) Over FY23</b>	<b>% Inc/(Dec)</b>	<b>% FY24 TL</b>
Salaries	9,220,303	9,966,371	10,340,333	10,844,077	11,699,605	11,615,143	771,066	7.1%	12.6%
Purch of Svc/ Expense	309,311	394,613	481,885	354,358	437,182	385,032	30,674	8.7%	0.4%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>9,529,614</b>	<b>10,360,983</b>	<b>10,822,218</b>	<b>11,198,435</b>	<b>12,136,787</b>	<b>12,000,175</b>	<b>801,740</b>	<b>7.2%</b>	<b>13.0%</b>

<b>Subtotal Middle School Expenditures</b>	<b>FY20 Actuals</b>	<b>FY21 Actuals</b>	<b>FY22 Actuals</b>	<b>FY23 Budget</b>	<b>FY24 Reg</b>	<b>FY24 Rec</b>	<b>\$ Inc/(Dec) Over FY23</b>	<b>% Inc/(Dec)</b>	<b>% FY24 TL</b>
Salaries	14,258,405	15,137,577	15,784,089	16,470,530	17,527,717	17,412,303	941,773	5.7%	18.9%
Purch of Svc/ Expense	806,044	626,752	929,639	845,383	972,728	889,328	43,945	5.2%	1.0%
Capital Outlay	-	-	-	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>15,064,449</b>	<b>15,764,329</b>	<b>16,713,728</b>	<b>17,315,913</b>	<b>18,500,445</b>	<b>18,301,631</b>	<b>985,718</b>	<b>5.7%</b>	<b>19.9%</b>

**High School Expenditures**

<b>High School Expenditures</b>	<b>FY20 Actuals</b>	<b>FY21 Actuals</b>	<b>FY22 Actuals</b>	<b>FY23 Budget</b>	<b>FY24 Reg</b>	<b>FY24 Rec</b>	<b>\$ Inc/(Dec) Over FY23</b>	<b>% Inc/(Dec)</b>	<b>% FY24 TL</b>
Salaries	16,819,356	17,339,886	18,175,039	19,652,055	20,948,049	20,710,743	1,058,688	5.4%	22.5%
Purch of Svc/ Expense	739,610	1,018,368	937,578	746,724	855,862	822,012	75,288	10.1%	0.9%
Capital Outlay	-	-	18,079	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>17,558,966</b>	<b>18,358,254</b>	<b>19,130,696</b>	<b>20,398,779</b>	<b>21,803,911</b>	<b>21,532,755</b>	<b>1,133,976</b>	<b>5.6%</b>	<b>23.4%</b>

<b>Total Expenditures</b>	<b>FY20 Actuals</b>	<b>FY21 Actuals</b>	<b>FY22 Actuals</b>	<b>FY23 Budget</b>	<b>FY24 Reg</b>	<b>FY24 Rec</b>	<b>\$ Inc/(Dec) Over FY23</b>	<b>% Inc/(Dec)</b>	<b>% FY24 TL</b>
Salaries	64,007,888	68,046,138	70,219,803	74,493,901	79,544,187	78,553,740	4,059,839	5.4%	85.2%
Purch of Svc/ Expense	11,464,361	11,583,286	11,283,155	12,783,897	14,144,015	13,602,233	818,336	6.4%	14.8%
Capital Outlay	81,378	18,805	125,865	-	-	-	-	0.0%	0.0%
<b>Totals</b>	<b>75,553,627</b>	<b>79,648,229</b>	<b>81,628,823</b>	<b>87,277,798</b>	<b>93,688,202</b>	<b>92,155,973</b>	<b>4,878,175</b>	<b>5.6%</b>	<b>100.0%</b>

# Summary of FY24 Operating Budget Changes:

Request	Supt Rec	SC Rec		Cost	PONG										
TL	TL	TL		Center	Priority	Description of Budgetary Increase	Department/ School	Total Request	Superintendent Chg	Total Recomm	School Cttee Chg	School Cttee Approved			
FTE	FTE	FTE													
842.12	842.12	842.12				Approved FY23 Budget		\$87,277,798		\$87,277,798					\$87,277,798
						<b>Level Service Requests</b>									
						<b>Level Service Contractual Salary Increases</b>									
-	-	-			4.A	Contractual Salary Increase (Preliminary)		\$2,751,117		\$2,751,117					\$2,751,117
0.50	-	-				<b>Subtotal: Contractual Salary Increases</b>		<b>\$2,847,358</b>	<b>-\$46,697</b>	<b>\$2,800,661</b>	<b>-\$3,873</b>				<b>\$2,796,788</b>
						<b>Level Service Requests: Elementary School</b>									
-	-	-		3131	4.A	Substitute Teacher Wage	Substitutes	\$12,350		\$12,350					\$12,350
-	-	-		3210	4.A	Expand School Bookkeeper from 11 to 12 Months	Broadmeadow Elementary	\$2,236		\$2,236					\$2,236
(0.08)	(0.08)	(0.08)		3210	4.A	Reduce Unfilled Part-Time Office Aide Position	Eliot Elementary	-\$2,236		-\$2,236					-\$2,236
(0.30)	(0.30)	(0.30)		3220	4.A	Expansion of Part-Time Assistant Principal to Full-Time	Eliot Elementary	\$4,452		\$4,452					\$4,452
(2.00)	(2.00)	(2.00)		3220	4.A	Reduce Class Sections to Match FY24 Enrollment	Eliot Elementary	-\$143,774		-\$143,774					-\$143,774
-	-	-		3220	4.A	Expand School Bookkeeper from 11 to 12 Months	Eliot Elementary	\$2,391		\$2,391					\$2,391
1.00	1.00	1.00		3230	4.A	Regular Education Kindergarten Teaching Assistant	Sunita Williams Elementary	\$29,258		\$29,258					\$29,258
1.00	1.00	1.00		3230	4.A	Full-Time Classroom Teacher for Enrollment	Sunita Williams Elementary	\$71,887		\$71,887					\$71,887
0.20	0.20	0.20		3240	4.A	Expansion of Part-Time Assistant Principal to Full-Time	Mitchell Elementary	\$27,897		\$27,897					\$27,897
1.00	1.00	1.00		3250	4.A	Regular Education Kindergarten Teaching Assistant	Newman Elementary	\$29,258		\$29,258					\$29,258
0.20	0.20	0.20		3510	1.C	Part-Time Guidance Counselor Sunita Williams	Guidance	\$23,092		\$23,092					\$23,092
0.20	-	-		3510	4.A	Part-Time Guidance Counselor Broadmeadow	Guidance	\$23,478	-\$23,478	\$0					\$0
0.30	0.30	0.30		3510	4.A	Part-Time Guidance Counselor Eliot	Guidance	\$18,741		\$18,741					\$18,741
(0.50)	(0.50)	(0.50)		3511	4.A	Convert Part-Time Sunita Williams Psychologist to Team Chair	Psychology	-\$55,260		-\$55,260					-\$55,260
-	-	-		3520	4.A	Additional Funding for Medical Supplies	Health/Nursing: School Health Serv	\$473		\$473					\$473
1.00	1.00	1.00		3530	1.C	Full-Time Speech and Language Pathologist Assistant for Mitchell, Newman, and Broadmeadow	Special Education	\$44,506	-\$1,300	\$43,206					\$43,206
1.00	1.00	1.00		3530	4.A	Full-Time Broadmeadow SPED Program Specialist	Special Education	\$43,207		\$43,207					\$43,207
(0.20)	(0.20)	(0.20)		3530	1.C	Convert Part-Time Broadmeadow Teaching Assistant to Part-Time Special Education Liaison	Special Education	\$4,981		\$4,981					\$4,981
(1.50)	(1.50)	(1.50)		3530	1.C	Convert Eliot Teaching Assistant to Full-Time Special Education Liaison	Special Education	-\$1,258		-\$1,258					-\$1,258
0.30	0.30	0.30		3530	1.C	Part-Time Newman Board Certified Behavior Analyst (BCBA)	Special Education	\$21,529		\$21,529					\$21,529
0.20	0.20	0.20		3530	4.A	Part-Time Newman Speech and Language Pathologist	Special Education	\$20,668		\$20,668					\$20,668
1.00	-	-		3530	4.A	Full-Time Inclusion Facilitator - Williams/Newman	Special Education	\$98,934	-\$98,934	\$0					\$0
1.00	1.00	1.00		3530	2.B	Full-Time Broadmeadow Connections Program Specialist	Special Education	\$49,680		\$49,680					\$49,680
0.06	-	-		3530	4.A	Expand a Part-Time Broadmeadow Special Education Teaching Assistant to Full-Time	Special Education	\$1,808	-\$1,808	\$0					\$0
1.00	1.00	1.00		3530	4.A	Full-Time Mitchell Special Education Liaison	Special Education	\$71,887		\$71,887					\$71,887
0.50	0.50	0.50		3530	4.A	Convert a Part-Time School Psychologist to IEP Team Chair and Add Per Diem Days	Special Education	\$56,837		\$56,837					\$56,837
0.30	-	-		3550	4.A	Part-Time ELL Teacher Broadmeadow Elementary School	ELL	\$32,189	-\$32,189	\$0					\$0
0.10	-	-		3550	4.A	Part-Time ELL Teacher Newman Elementary School	ELL	\$10,091	-\$10,091	\$0					\$0
0.05	-	-		3560	4.A	Part-Time Literacy Specialist/ Coach at Eliot	K-8 Reading Instruction	\$4,849	-\$4,849	\$0					\$0
-	-	-		3560	4.A	Reading Screener for 1st and 2nd grade	K-8 Reading Instruction	\$11,000		\$11,000					\$11,000
1.50	-	-		3561	4.A	Part-Time Math Specialist/Coaches at Sunita Williams, Mitchell, and Broadmeadow	Elementary Math Instruction	\$107,832	-\$107,832	\$0					\$0
0.45	-	-		3620	4.A	Part-Time Program Assistant	Elementary Science Center	\$16,345	-\$16,345	\$0					\$0
-	-	-		3620	4.A	Digital Licenses	Elementary Science Center	\$4,500		\$4,500					\$4,500
-	-	-		3630	4.A	Replacement Digital Learning Devices (Year 2 of 3)	Educational Technology	\$218,750	-\$156,250	\$62,500					\$62,500



## Summary of FY24 Operating Budget Changes (cont.):

Request TL FTE	Supt Rec TL FTE	SC Rec TL FTE	Cost Center	PONG Priority	Description of Budgetary Increase	Department/ School	Total Request	Superintendent Chg	Total Recomm	School Cttee Chg	School Cttee Approved
0.33	0.33	0.33	3640	4.A	Adjust Elementary Wellness Teacher FTE for Enrollment	Physical Education	\$20,211		\$20,211		\$20,211
0.10	0.10	0.10	3650	1.C	Continue Funding for Elementary Specialist Staffing to Support Enrollment	Fine Arts	\$6,247		\$6,247		\$6,247
0.50	0.25	0.25	3651	4.A	Part-Time Elementary String Teacher	Performing Arts	\$35,944	-\$17,972	\$17,972		\$17,972
-	-	-	3651	4.A	Third Grade Recorders	Performing Arts	\$2,500	-\$2,500	\$0		\$0
-	-	-	3651	4.A	Accompanist Rate Increase	Performing Arts	\$3,420		\$3,420		\$3,420
(0.21)	(0.21)	(0.21)	3651	4.A	Continue Funding for Elementary Specialist Staff to Support Enrollment	Performing Arts	-\$15,096		-\$15,096		-\$15,096
0.09	0.09	0.09	3660	4.A	Adjust World Language Teacher Staffing for Enrollment	World Languages	\$5,222		\$5,222		\$5,222
<b>8.59</b>	<b>4.68</b>	<b>4.68</b>			<b>Subtotal: Level Service Elementary</b>		<b>\$921,026</b>	<b>-\$473,548</b>	<b>\$447,478</b>	<b>\$0</b>	<b>\$447,478</b>
<b>Level Service Requests: Middle School</b>											
-	-	-	3131	4.A	Part-Time Lunch Monitors	Substitutes	\$15,985		\$15,985		\$15,985
-	-	-	3131	4.A	Substitute Teacher Wage	Substitutes	\$6,238		\$6,238		\$6,238
(0.20)	(0.20)	(0.20)	3260	4.A	Reduce Vacant 0.2 FTE Classroom Teacher	High Rock Middle School	-\$14,377		-\$14,377		-\$14,377
0.10	-	-	3300	4.A	Part-Time Engineering Teacher	Pollard Middle School	\$8,489	-\$8,489	\$0		\$0
0.10	0.10	0.10	3300	4.A	Part-Time Math Teacher	Pollard Middle School	\$8,489	-\$1,300	\$7,189		\$7,189
0.10	-	-	3510	4.A	Part-Time Guidance Counselor High Rock	Guidance	\$7,189	-\$7,189	\$0		\$0
0.30	0.30	0.30	3520	4.A	Part-Time Pollard Nurse	Health/Nursing: School Health Serv	\$23,943		\$23,943		\$23,943
-	-	-	3520	4.A	Additional Funding for Medical Supplies and Audiometer Service	Health/Nursing: School Health Serv	\$295		\$295		\$295
4.00	3.00	3.00	3530	3.B	New Pollard ILC Classroom	Special Education	\$165,523	-\$32,879	\$132,644		\$132,644
0.60	0.60	0.60	3560	4.A	Continue High Rock Literacy Specialist	K-8 Reading Instruction	\$37,482		\$37,482		\$37,482
-	-	-	3630	4.A	Replacement Digital Learning Devices (Year 2 of 3)	Educational Technology	\$87,500	-\$62,500	\$25,000		\$25,000
0.40	0.40	0.40	3650	4.A	Part-Time Visual Art Pollard Middle School	Fine Arts	\$23,209		\$23,209		\$23,209
-	-	-	3651	4.A	Pollard Auditorium Curtain	Performing Arts	\$12,000	-\$12,000	\$0		\$0
0.20	-	-	3651	4.A	Part-Time High Rock Strings	Performing Arts	\$14,377	-\$14,377	\$0		\$0
-	-	-	3651	4.A	Accompanist Rate Increase	Performing Arts	\$1,368		\$1,368		\$1,368
0.20	-	-	3660	4.A	Part-Time ASL Teacher at Pollard	World Languages	\$19,396	-\$19,396	\$0		\$0
<b>5.80</b>	<b>4.20</b>	<b>4.20</b>			<b>Subtotal: Level Service Middle</b>		<b>\$417,106</b>	<b>-\$158,130</b>	<b>\$258,976</b>	<b>\$0</b>	<b>\$258,976</b>
<b>Level Service Requests: High School</b>											
-	-	-	3131	4.A	Substitute Teacher Wage	Substitutes	\$2,467	-\$35,944	-\$33,477		-\$33,477
0.35	0.35	0.35	3400	2.B	Part-Time English Teacher	Needham High School	\$25,160		\$25,160		\$25,160
0.40	0.40	0.40	3400	4.A	Part-Time Social Studies Teacher	Needham High School	\$27,398		\$27,398		\$27,398
0.20	0.20	0.20	3400	4.A	Part-Time Science Teacher	Needham High School	\$13,074		\$13,074		\$13,074
-	-	-	3400	4.A	Digital Science Textbook Increase	Needham High School	\$30,000		\$30,000		\$30,000
-	-	-	3400	4.A	MCAS Science Preparatory Course	Needham High School	\$3,000	-\$3,000	\$0		\$0
-	-	-	3400	3.C	Lab Aide Increase	Needham High School	\$1,242	-\$1,242	\$0		\$0
-	-	-	3400	4.A	Students Acting to Make A Difference Stipend Restructure	Needham High School	\$17,286		\$17,286		\$17,286
-	-	-	3400	4.A	Expand 10-Month Department Secretary to 11-Month	Needham High School	\$3,873	-\$3,873	\$0	\$3,873	\$3,873
-	-	-	3410	4.A	Increase in Athletics Subsidy for Fiscal Sustainability	Needham High School Athletics	\$50,000		\$50,000		\$50,000
-	-	-	3410	4.A	Convert Full-Time Athletics Bookkeeper to Part-Time Bookkeeper and Part-Time Secretary	Needham High School Athletics	-\$10,317		-\$10,317		-\$10,317
-	-	-	3410	4.A	Eliminate Snowboard Coach Stipend	Needham High School Athletics	-\$1,727		-\$1,727		-\$1,727
-	-	-	3410	4.A	Convert Trainer and Assistant Trainer from Salary to Contractual	Needham High School Athletics	\$0		\$0		\$0
0.20	0.20	0.20	3511	4.A	Part-Time NHS School Psychologist	Psychology	\$16,296		\$16,296		\$16,296
-	-	-	3520	4.A	Additional Funding for Medical Supplies and Audiometer Service	Health/Nursing: School Health Serv	\$314		\$314		\$314
(0.90)	(0.90)	(0.90)	3530	4.A	Convert NHS Teaching Assistants to Part-Time Post Graduate Special Education Liaison	Special Education	\$4,305		\$4,305		\$4,305
(1.00)	(1.00)	(1.00)	3530	4.A	Convert NHS Teaching Assistants to Part-Time Special Education Teacher	Special Education	\$21,134		\$21,134		\$21,134
(0.51)	(0.51)	(0.51)	3530	4.A	Convert a NHS Teaching Assistant to Part-Time Occupational Therapist (OT)	Special Education	\$8,057		\$8,057		\$8,057
-	-	-	3530	4.A	Convert a Part-Time School Psychologist to IEP Team Chair and Add Per Diem Days	Special Education	-\$2,271		-\$2,271		-\$2,271
0.30	0.30	0.30	3550	2.B	Part-Time ELL Teacher High School	ELL	\$34,638		\$34,638		\$34,638
-	-	-	3630	4.A	Replacement Digital Learning Devices (Year 2 of 3)	Educational Technology	\$43,750	-\$31,250	\$12,500		\$12,500

## Summary of FY24 Operating Budget Changes (cont.):

Request TL	Supt Rec TL	SC Rec TL	Cost Center	PONG Priority	Description of Budgetary Increase	Department/ School	Total Request	Superintendent Chg	Total Recomm	School Cttee Chg	School Cttee Approved
-	-	-	3651	4.A	A Cappella Sunday NHS Permit Fee	Performing Arts	\$8,840		\$8,840		\$8,840
-	-	-	3651	4.A	Accompanist Rate Increase	Performing Arts	\$684		\$684		\$684
0.10	0.10	0.10	3651	4.A	Part-Time High School Theater Teacher	Performing Arts	\$8,922		\$8,922		\$8,922
-	-	-	3660	4.A	Increase in Cost for STAMP 11th Grade	World Languages	\$1,027		\$1,027		\$1,027
-	-	-	3660	4.A	Extempore	World Languages	\$2,200		\$2,200		\$2,200
0.20	-	-	3660	4.A	Part-Time Mandarin Teacher	World Languages	\$15,677	-\$15,677	\$0		\$0
<b>(0.66)</b>	<b>(0.86)</b>	<b>(0.86)</b>			<b>Subtotal: Level Service High</b>		<b>\$325,029</b>	<b>-\$90,986</b>	<b>\$234,043</b>	<b>\$3,873</b>	<b>\$237,916</b>
<b>Level Service Requests: District</b>											
-	-	-	3020	2.3	Survey Tool Subscription	Superintendent	\$22,000		\$22,000		\$22,000
(0.27)	(0.27)	(0.27)	3020	4.A	Reallocate NCE Marketing Resources	Superintendent	-\$17,769		-\$17,769		-\$17,769
0.06	0.06	0.06	3031	4.A	Expand Part-Time Bookkeeper	Student Support Services	\$3,428		\$3,428		\$3,428
0.57	-	-	3040	4.A	Part-Time Accounts Payable/Receivable Clerk	Financial Operations	\$31,474	-\$31,474	\$0		\$0
-	-	-	3131	4.A	Substitute Teacher Wage	Substitutes	\$5,606		\$5,606		\$5,606
-	-	-	3133	4.A	Unpaid Student Meal Debt	General Supplies, Services & Equipm	\$31,000	-\$31,000	\$0		\$0
-	-	-	3133	4.A	Reallocate Funding for COVID-19 PPE and Cleaning/ Sanitizing Supplies	General Supplies, Services & Equipm	-\$180,000		-\$180,000		-\$180,000
-	-	-	3150	4.A	Software as a Service Rate Increase: PowerSchool, et al	Administrative Technology	\$17,887		\$17,887		\$17,887
-	-	-	3150	4.A	Contractual Professional Development Funds for ITS Staff	Administrative Technology	\$500		\$500		\$500
-	-	-	3160	4.A	Additional Connolly Bus	Transportation	\$71,820		\$71,820		\$71,820
-	-	-	3160	4.A	Pupil Transportation Radio Service Contract	Transportation	\$14,000		\$14,000		\$14,000
-	-	-	3160	4.A	Special Education Out-of-District Transportation Funding Increase	Transportation	\$327,000		\$327,000		\$327,000
0.60	0.60	0.60	3511	4.A	Part-Time Preschool Psychologist	Psychology	\$68,118		\$68,118		\$68,118
1.20	0.60	0.60	3520	4.A	Part-Time Float Nurse Positions	Health/Nursing: School Health Servi	\$87,553	-\$45,402	\$42,151		\$42,151
-	-	-	3520	4.A	Required CLIA Waiver	Health/Nursing: School Health Servi	\$180		\$180		\$180
-	-	-	3520	4.A	Convert Two Transportation Nurses from Hourly to Unit A	Health/Nursing: School Health Servi	\$48,101		\$48,101		\$48,101
-	-	-	3520	4.A	Increase Nurse Sub Rate for Recruitment and Retention	Health/Nursing: School Health Servi	\$4,952		\$4,952		\$4,952
0.09	0.09	0.09	3530	1.C	Part-Time District Physical Therapist	Special Education	\$10,565		\$10,565		\$10,565
(1.82)	(1.82)	(1.82)	3530	4.A	Adjust Cost Share with Preschool Revolving and Recalibrate Preschool Fees	Special Education	-\$157,232		-\$157,232		-\$157,232
0.45	0.45	0.45	3530	4.A	Full-Time Certified Occupational Therapist Assistant (COTA)	Special Education	\$8,114		\$8,114		\$8,114
0.92	0.92	0.92	3530	4.A	Expand Part-Time Preschool Program Specialist to Full-Time	Special Education	\$45,705		\$45,705		\$45,705
0.40	0.40	0.40	3530	2.B	Part-Time Speech and Language Pathologist	Special Education	\$41,911		\$41,911		\$41,911
1.60	1.60	1.60	3530	4.A	Preschool Teaching Assistants for Schedule	Special Education	\$46,813		\$46,813		\$46,813
1.00	1.00	1.00	3530	4.A	Preschool Special Education Classroom for New Preschool Class	Special Education	\$83,187	-\$6,300	\$76,887		\$76,887
1.60	1.60	1.60	3530	4.A	Two Full-Time Special Education Preschool Teaching Assistants For New Preschool Classroom	Special Education	\$48,045	-\$2,600	\$45,445		\$45,445
0.08	0.08	0.08	3530	4.A	Expand Part-Time Preschool Program Specialist to Full-Time	Special Education	\$3,974		\$3,974		\$3,974
-	-	-	3531	1.C	Increase in Special Education Out of District Tuition	Special Education Out-of-District Tu	\$194,962		\$194,962		\$194,962
-	-	-	3532	4.A	Extended School Year (ESY) Salaries	Special Education Summer Services	\$32,000		\$32,000		\$32,000
-	-	-	3532	4.A	Increase Summer ESY Teaching Assistant Wage for Recruitment and Retention	Special Education Summer Services	\$5,238		\$5,238		\$5,238
-	-	-	3534	4.A	Special Education Professional Services	Special Education Professional Servi	\$60,000		\$60,000		\$60,000
-	-	-	3535	4.A	Special Education Home Hospital Services	Special Education Home Hospital Tu	\$15,893		\$15,893		\$15,893
-	-	-	3543	4.A	Regular Education Home Hospital Tutoring	Regular Education Home Hospital Tr	\$8,500		\$8,500		\$8,500
-	-	-	3551	2.2	Translation/Interpretation Services	Translation & Interpreting Services	\$1,500		\$1,500		\$1,500
-	-	-	3562	2.2	Summer Bridge Program Staff	Summer Bridge Program	\$37,740		\$37,740		\$37,740
1.00	-	-	3570	2.2	Full-Time 504 Accommodation Teaching Assistant	Student 504 Compliance	\$30,558	-\$30,558	\$0		\$0
<b>7.48</b>	<b>5.31</b>	<b>5.31</b>			<b>Subtotal: Level Service District</b>		<b>\$1,053,323</b>	<b>-\$147,334</b>	<b>\$905,989</b>	<b>\$0</b>	<b>\$905,989</b>
<b>21.71</b>	<b>13.33</b>	<b>13.33</b>			<b>SUBTOTAL LEVEL SERVICE</b>		<b>\$5,563,842</b>	<b>-\$916,695</b>	<b>\$4,647,147</b>	<b>\$3,873</b>	<b>\$4,651,020</b>

## Summary of FY24 Operating Budget Changes (cont.):

Request	Supt Rec	SC Rec	Cost	PONG	Description of Budgetary Increase	Department/ School	Total Request	Superintendent Chg	Total Recomm	School Cttee Chg	School Cttee Approved
TL FTE	TL FTE	TL FTE	Center	Priority							
<b>Program Improvement Requests</b>											
<b>Program Improvement Requests: Elementary School</b>											
-	-	-	3132	1.C	K-5 Social Studies Curriculum	Curriculum Development	\$13,000		\$13,000		\$13,000
0.14	-	-	3210	4.A	Convert Part-Time Office Aide to Full-Time General Education Teaching Assistant	Broadmeadow Elementary	\$1,339	-\$1,339	\$0		\$0
-	-	-	3210	4.C	Dismissal Management System	Broadmeadow Elementary	\$2,000		\$2,000		\$2,000
0.20	-	-	3210	4.C	Part-Time Elementary Family Support and Engagement Coordinator	Broadmeadow Elementary	\$14,377	-\$14,377	\$0		\$0
0.20	-	-	3220	4.C	Part-Time Elementary Family Support and Engagement Coordinator	Eliot Elementary	\$14,377	-\$14,377	\$0		\$0
-	-	-	3230	4.A	Dismissal Management System	Sunita Williams Elementary	\$2,000		\$2,000		\$2,000
0.20	-	-	3230	4.A	Part-Time Elementary Family Support and Engagement Coordinator	Sunita Williams Elementary	\$14,377	-\$14,377	\$0		\$0
-	-	-	3230	4.A	Restorative Justice Professional Development	Sunita Williams Elementary	\$24,977	-\$24,977	\$0		\$0
-	-	-	3230	4.A	Teacher Leader Stipend Request	Sunita Williams Elementary	\$1,666	-\$1,666	\$0		\$0
0.20	-	-	3240	4.A	Part-Time Elementary Family Support and Engagement Coordinator	Mitchell Elementary	\$14,377	-\$14,377	\$0		\$0
-	-	-	3240	4.A	Expand School Bookkeeper from 11 to 12 Months	Mitchell Elementary	\$2,344	-\$2,344	\$0		\$0
0.20	-	-	3250	3.A	Part-Time Elementary Family Support and Engagement Coordinator	Newman Elementary	\$14,377	-\$14,377	\$0		\$0
0.50	-	-	3520	3.A	Part-Time Sunita Williams Nurse	Health/Nursing: School Health Serv	\$38,792	-\$38,792	\$0		\$0
(0.40)	-	-	3530	4.A	Convert Full-Time Eliot SPED Teaching Assistant to Part-Time Special Education Teacher	Special Education	\$15,174	-\$15,174	\$0		\$0
0.13	-	-	3530	1.C	Part-Time Assistive Technology Specialist (Unit A)	Special Education	\$8,985	-\$8,985	\$0		\$0
-	-	-	3560	4.A	Science of Reading Aligned Curriculum	K-8 Reading Instruction	\$90,000	-\$90,000	\$0		\$0
0.25	-	-	3640	4.C	Part-Time Instructional Coach	Physical Education	\$17,970	-\$17,970	\$0		\$0
0.13	-	-	3660	2.2	Part-Time Instructional Coach	World Languages	\$10,370	-\$10,370	\$0		\$0
<b>1.75</b>	-	-			<b>Subtotal: Program Improvement Elementary</b>		<b>\$300,502</b>	<b>-\$283,502</b>	<b>\$17,000</b>	<b>\$0</b>	<b>\$17,000</b>
<b>Program Improvement Requests: Middle</b>											
-	-	-	3260	2.A	GSA, Genders & Sexuality Alliance Stipend	High Rock	\$1,921		\$1,921		\$1,921
-	-	-	3260	2.A	Game & Card Club Stipend	High Rock	\$1,921	-\$1,921	\$0		\$0
-	-	-	3300	2.C	Pollard TV News Show Stipend	Pollard Middle School	\$1,921	-\$1,921	\$0		\$0
-	-	-	3300	4.C	Pollard Best Buddies Stipend Increase to Level II	Pollard Middle School	\$959		\$959		\$959
-	-	-	3300	4.C	Pollard 5k Club Stipend	Pollard Middle School	\$1,921	-\$1,921	\$0		\$0
0.05	-	-	3530	1.C	Part-Time Assistive Technology Specialist (Unit A)	Special Education	\$3,594	-\$3,594	\$0		\$0
0.10	-	-	3640	4.C	Part-Time Instructional Coach	Physical Education	\$7,188	-\$7,188	\$0		\$0
0.10	-	-	3650	2.A	Part-Time Arts Integration at Pollard	Fine Arts	\$8,489	-\$8,489	\$0		\$0
0.16	-	-	3651	4.A	Part-Time Technical Theater Director (Middle and High School)	Performing Arts	\$11,502	-\$11,502	\$0		\$0
-	-	-	3660	2.C	STAMP Assessment for 8th Grade	World Languages	\$10,129		\$10,129		\$10,129
0.05	-	-	3660	2.2	Part-Time Instructional Coach	World Languages	\$4,148	-\$4,148	\$0		\$0
<b>0.46</b>	-	-			<b>Subtotal: Program Improvement Middle</b>		<b>\$53,693</b>	<b>-\$40,684</b>	<b>\$13,009</b>	<b>\$0</b>	<b>\$13,009</b>
<b>Program Improvement Requests: High</b>											
0.40	-	-	3400	1.B	Part-Time NHS Restorative Practices Coach	Needham High School	\$28,755	-\$28,755	\$0		\$0
-	-	-	3400	3.C	NHS Ambassadors Advisor Stipend Increase	Needham High School	\$1,921		\$1,921		\$1,921
-	-	-	3400	2.2	NHS Robotics Assistant Stipend (Cat III)	Needham High School	\$1,921		\$1,921		\$1,921
-	-	-	3400	4.A	Food Security Club Advisor Stipend	Needham High School	\$1,921	-\$1,921	\$0		\$0
0.50	-	-	3400	4.A	Expand Part-Time Inclusive Practices Coach to Full-Time	Special Education	\$56,764	-\$56,764	\$0		\$0
-	-	-	3400	4.A	A Cappella Advisor Stipend	Needham High School	\$5,763		\$5,763		\$5,763
-	-	-	3410	4.A	Scale Adjustment to Varsity Coaching Stipends	Needham High School Athletics	\$6,093		\$6,093		\$6,093
1.00	1.00	1.00	3510	4.A	High School Guidance Department Chair	Guidance	\$139,095		\$139,095		\$139,095

## Summary of FY24 Operating Budget Changes (cont.):

0.20	-	-	3530	4.A	Part-Time NHS Pathways Science Teacher	Special Education	\$14,377	-\$14,377	\$0	\$0	
0.03	-	-	3530	1.C	Part-Time Assistive Technology Specialist (Unit A)	Special Education	\$1,797	-\$1,797	\$0	\$0	
0.05	-	-	3640	4.C	Part-Time Instructional Coach	Physical Education	\$3,594	-\$3,594	\$0	\$0	
0.20	-	-	3640	4.A	Part-Time Wellness Teacher for Pathways and Connections Program	Physical Education	\$13,074	-\$13,074	\$0	\$0	
0.34	-	-	3651	4.A	Part-Time Technical Theater Director (Middle and High School)	Performing Arts	\$25,742	-\$25,742	\$0	\$0	
0.03	-	-	3660	2.2	Part-Time Instructional Coach	World Languages	\$2,074	-\$2,074	\$0	\$0	
<b>2.75</b>	<b>1.00</b>	<b>1.00</b>			<b>Subtotal: Program Improvement High</b>		<b>\$302,891</b>	<b>-\$148,098</b>	<b>\$154,793</b>	<b>\$0</b>	<b>\$154,793</b>
<b>Program Improvement Requests: District</b>											
-	-	-	3030	4.A	Implementation Cost of Time Keeping System	Human Resources	\$35,000	-\$35,000	\$0	\$0	
-	-	-	3031	4.A	Special Education and 504 Management System Implementation	Student Support Services	\$7,500		\$7,500	\$7,500	
-	-	-	3110	4.A	Professional Development for the District Leadership Team	Professional Development	\$30,000	-\$30,000	\$0	\$0	
-	-	-	3150	4.A	Convert Computer Technician to Lead Technician	Administrative Technology	\$8,570		\$8,570	\$8,570	
-	-	-	3520	4.A	Increase District Health Office Supply Budget	Health/Nursing: School Health Serv	\$468		\$468	\$468	
-	-	-	3532	4.A	Increase Summer Nurse Rate for ESY	Special Education Summer Services	\$1,300		\$1,300	\$1,300	
-	-	-	3532	4.A	Summer Breakfasts and Lunches for Summer ESY Program	Special Education Summer Services	\$22,996	-\$22,996	\$0	\$0	
1.00	-	-	3550	4.A	Full-Time Districtwide ELL Teaching Assistant	ELL	\$30,558	-\$30,558	\$0	\$0	
-	-	-	3562	1.C	Summer Breakfasts and Lunches for Summer Bridges	Summer Bridge Program	\$18,696	-\$18,696	\$0	\$0	
-	-	-	3562	1.C	Parks & Recreation Summer Bridges Tuition	Summer Bridge Program	\$6,000	-\$6,000	\$0	\$0	
-	-	-	3562	1.C	Transportation for Summer Bridges	Summer Bridge Program	\$26,638		\$26,638	\$26,638	
-	-	-	3660	1.C	Professional Development: Interculturality, Hispanohablante culture(s) and Francophone culture(s)	World Languages	\$1,750		\$1,750	\$1,750	
<b>1.00</b>	<b>-</b>	<b>-</b>			<b>Subtotal: Program Improvement District</b>		<b>\$189,476</b>	<b>-\$143,250</b>	<b>\$46,226</b>	<b>\$0</b>	<b>\$46,226</b>
<b>5.96</b>	<b>1.00</b>	<b>1.00</b>			<b>SUBTOTAL PROGRAM IMPROVEMENT</b>		<b>\$846,562</b>	<b>-\$615,534</b>	<b>\$231,028</b>	<b>\$0</b>	<b>\$231,028</b>
<b>869.76</b>	<b>856.45</b>	<b>856.45</b>	<b>-</b>		<b>TOTAL FY24 SCHOOL BUDGET</b>		<b>\$93,688,202</b>	<b>-\$1,532,229</b>	<b>\$92,155,973</b>	<b>\$0</b>	<b>\$92,155,973</b>
<b>27.64</b>	<b>14.33</b>	<b>14.33</b>			<b>\$ / FTE INCREASE FROM FY23</b>		<b>\$6,410,404</b>		<b>\$4,878,175</b>		<b>\$4,878,175</b>
<b>3.28%</b>	<b>1.70%</b>	<b>1.70%</b>			<b>% INCREASE FROM FY23</b>		<b>7.34%</b>		<b>5.59%</b>		<b>5.59%</b>

# FY24 Operating Budget Staffing Detail by Department:

	Total FY20 Actual	Total FY21 Actual	Total FY22 Actual	Total FY23 Approved	Total FY24 Request	Total FY24 Supt Rec	Admin FY24 SC Approved	Teacher FY24 SC Approved	Aide FY24 SC Approved	Non Instr FY24 SC Approved	Total FY24 SC Approved
<b>Administration</b>											
School Committee	-	-	-	-	-	-	-	-	-	-	-
Superintendent	2.00	2.81	2.74	4.01	3.74	3.74	1.44	-	-	2.30	3.74
Human Resources	6.85	6.85	6.85	6.85	6.85	6.85	1.00	-	-	5.85	6.85
Student Support Services	3.81	2.80	2.80	2.80	2.86	2.86	1.00	-	-	1.86	2.86
Student Learning	2.00	2.00	2.00	2.00	2.00	2.00	1.00	-	-	1.00	2.00
Financial Operations	6.94	5.94	6.94	6.94	7.51	6.94	1.00	-	-	5.94	6.94
External Funding	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal Administration</b>	<b>21.60</b>	<b>20.40</b>	<b>21.33</b>	<b>22.60</b>	<b>22.96</b>	<b>22.39</b>	<b>5.44</b>	<b>-</b>	<b>-</b>	<b>16.95</b>	<b>22.39</b>
<b>General Supplies &amp; Services</b>											
<b>Professional Development</b>											
District	-	-	-	-	-	-	-	-	-	-	-
Broadmeadow	-	-	-	-	-	-	-	-	-	-	-
Eliot	-	-	-	-	-	-	-	-	-	-	-
Williams	-	-	-	-	-	-	-	-	-	-	-
Mitchell	-	-	-	-	-	-	-	-	-	-	-
Newman	-	-	-	-	-	-	-	-	-	-	-
High Rock	-	-	-	-	-	-	-	-	-	-	-
Pollard	-	-	-	-	-	-	-	-	-	-	-
Employee Assistance Program	-	-	-	-	-	-	-	-	-	-	-
Staff 504 Accomodations	-	-	-	-	-	-	-	-	-	-	-
Lane Changes & Sick Buy Back	-	-	-	-	-	-	-	-	-	-	-
Sub Callers	-	-	-	-	-	-	-	-	-	-	-
Substitutes	3.04	2.34	0.97	2.11	2.11	2.11	-	1.00	-	1.11	2.11
Curriculum Development	-	-	0.20	0.20	0.20	0.20	0.20	-	-	-	0.20
General Supplies, Services & E	-	-	-	-	-	-	-	-	-	-	-
Remote Learning	-	-	-	-	-	-	-	-	-	-	-
Production Center/Mail Room	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-	1.00	1.00
Administrative Technology	12.76	12.96	12.96	12.96	12.96	12.96	-	-	-	12.96	12.96
Transportation	10.02	9.09	10.46	10.75	10.75	10.75	-	-	-	10.68	10.68
<b>Subtotal Gen. Supply &amp; Svc.</b>	<b>26.82</b>	<b>25.39</b>	<b>25.59</b>	<b>27.02</b>	<b>27.02</b>	<b>27.02</b>	<b>0.20</b>	<b>1.00</b>	<b>-</b>	<b>25.75</b>	<b>26.95</b>
<b>Elementary</b>											
Broadmeadow	35.43	35.43	37.43	36.43	36.77	36.43	2.00	25.00	5.00	4.43	36.43
Eliot	27.09	29.59	33.49	31.59	29.41	29.21	2.00	20.00	3.50	3.71	29.21
Williams	33.74	37.54	37.13	36.13	38.34	38.14	2.00	26.00	6.00	4.14	38.14
Mitchell	33.46	34.76	35.66	33.66	34.06	33.86	2.00	23.00	5.00	3.86	33.86
Newman	41.66	39.79	44.18	41.86	43.06	42.86	2.00	30.00	6.00	4.86	42.86
<b>Subtotal Elementary</b>	<b>171.38</b>	<b>177.10</b>	<b>187.88</b>	<b>179.67</b>	<b>181.64</b>	<b>180.50</b>	<b>10.00</b>	<b>124.00</b>	<b>25.50</b>	<b>21.00</b>	<b>180.50</b>
<b>Middle</b>											
High Rock	26.44	26.84	28.44	26.64	26.44	26.44	3.10	20.20	-	3.14	26.44
Pollard Middle School	52.50	55.10	55.30	53.70	53.90	53.80	5.10	43.70	-	5.00	53.80
<b>Subtotal Middle School</b>	<b>78.94</b>	<b>81.94</b>	<b>83.74</b>	<b>80.34</b>	<b>80.34</b>	<b>80.24</b>	<b>8.20</b>	<b>63.90</b>	<b>-</b>	<b>8.14</b>	<b>80.24</b>
<b>High School</b>											
Needham High School	90.67	92.03	92.42	94.15	95.50	95.10	7.20	79.50	0.57	7.83	95.10
High School Athletics	2.50	2.50	2.50	2.50	2.50	2.50	1.00	-	-	1.50	2.50
<b>Subtotal High School</b>	<b>93.17</b>	<b>94.53</b>	<b>94.92</b>	<b>96.65</b>	<b>98.00</b>	<b>97.60</b>	<b>8.20</b>	<b>79.50</b>	<b>0.57</b>	<b>9.33</b>	<b>97.60</b>





## FY24 Operating Budget Staffing Detail by Department (cont.):

	Total FY20 Actual	Total FY21 Actual	Total FY22 Actual	Total FY23 Approved	Total FY24 Request	Total FY24 Supt Rec	Admin FY24 SC Approved	Teacher FY24 SC Approved	Aide FY24 SC Approved	Non Instr FY24 SC Approved	Total FY24 SC Approved
<b>Media &amp; Digital Learning</b>	<b>24.00</b>	<b>24.00</b>	<b>24.00</b>	<b>24.20</b>	<b>24.20</b>	<b>24.20</b>	-	19.60	3.00	1.60	24.20
<i>District</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Broadmeadow</i>	2.20	2.20	2.20	2.20	2.20	2.20	-	2.00	-	0.20	2.20
<i>Elliot</i>	2.20	2.20	2.20	2.20	2.20	2.20	-	2.00	-	0.20	2.20
<i>Williams</i>	2.20	2.20	2.20	2.20	2.20	2.20	-	2.00	-	0.20	2.20
<i>Mitchell</i>	2.20	2.20	2.20	2.20	2.20	2.20	-	2.00	-	0.20	2.20
<i>Newman</i>	2.50	2.50	2.50	2.50	2.50	2.50	-	2.30	-	0.20	2.50
<i>High Rock</i>	2.50	2.50	2.50	2.50	2.50	2.50	-	2.50	-	-	2.50
<i>Pollard</i>	3.40	3.40	3.40	3.40	3.40	3.40	-	2.80	-	0.60	3.40
<i>HS</i>	6.80	6.80	6.80	7.00	7.00	7.00	-	4.00	3.00	-	7.00
<b>K-12 Dir. Media &amp; Tech Services</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>1.00</b>	-	-	<b>1.00</b>	<b>2.00</b>
<b>Physical Education</b>	<b>21.60</b>	<b>22.10</b>	<b>23.40</b>	<b>22.64</b>	<b>23.57</b>	<b>22.97</b>	-	22.97	-	-	22.97
<i>Broadmeadow</i>	1.60	1.60	1.60	1.67	1.72	1.67	-	1.67	-	-	1.67
<i>Elliot</i>	1.20	1.20	1.60	1.47	1.52	1.47	-	1.47	-	-	1.47
<i>Williams</i>	1.50	1.50	1.60	1.67	1.05	1.00	-	1.00	-	-	1.00
<i>Mitchell</i>	1.50	1.50	1.80	1.53	2.26	2.21	-	2.21	-	-	2.21
<i>Newman</i>	2.00	2.00	2.30	2.00	2.37	2.32	-	2.32	-	-	2.32
<i>High Rock</i>	2.00	2.00	2.00	2.00	2.05	2.00	-	2.00	-	-	2.00
<i>Pollard</i>	4.20	4.70	4.70	4.70	4.75	4.70	-	4.70	-	-	4.70
<i>HS</i>	7.60	7.60	7.80	7.60	7.85	7.60	-	7.60	-	-	7.60
<b>Health Education</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	-	1.00	-	-	1.00
<i>High Rock</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Pollard</i>	1.00	1.00	1.00	1.00	1.00	1.00	-	1.00	-	-	1.00
<i>HS</i>	-	-	-	-	-	-	-	-	-	-	-
<b>K-12 Dir. Health &amp; Phys. Ed.</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	-	-	-	<b>1.00</b>
<b>Fine Arts</b>	<b>17.00</b>	<b>17.10</b>	<b>17.46</b>	<b>16.76</b>	<b>17.36</b>	<b>17.26</b>	-	17.26	-	-	17.26
<i>Broadmeadow</i>	1.00	1.00	1.00	0.93	1.00	1.00	-	1.00	-	-	1.00
<i>Elliot</i>	0.70	0.70	0.83	0.83	0.83	0.83	-	0.83	-	-	0.83
<i>Williams</i>	1.00	1.00	0.93	0.93	0.93	0.93	-	0.93	-	-	0.93
<i>Mitchell</i>	1.00	1.00	1.00	0.87	1.00	1.00	-	1.00	-	-	1.00
<i>Newman</i>	1.30	1.30	1.20	1.10	1.00	1.00	-	1.00	-	-	1.00
<i>High Rock</i>	1.00	1.00	1.00	1.00	1.00	1.00	-	1.00	-	-	1.00
<i>Pollard</i>	3.00	3.10	3.50	3.10	3.60	3.50	-	3.50	-	-	3.50
<i>HS</i>	8.00	8.00	8.00	8.00	8.00	8.00	-	8.00	-	-	8.00
<b>Performing Arts</b>	<b>15.27</b>	<b>14.90</b>	<b>16.36</b>	<b>16.72</b>	<b>18.29</b>	<b>16.84</b>	-	16.41	0.43	-	16.84
<i>Broadmeadow</i>	1.58	1.40	1.50	1.68	1.53	1.48	-	1.48	-	-	1.48
<i>Elliot</i>	1.08	1.00	1.38	1.38	1.48	1.43	-	1.35	0.08	-	1.43
<i>Williams</i>	1.40	1.26	1.57	1.54	1.64	1.59	-	1.45	0.14	-	1.59
<i>Mitchell</i>	1.44	1.30	1.54	1.47	1.57	1.52	-	1.38	0.14	-	1.52
<i>Newman</i>	1.78	1.64	1.70	1.66	1.80	1.75	-	1.75	-	-	1.75
<i>High Rock</i>	2.03	2.00	2.03	2.03	2.23	2.03	-	2.00	0.03	-	2.03
<i>Pollard</i>	2.76	3.10	3.16	3.46	3.60	3.44	-	3.40	0.04	-	3.44
<i>HS</i>	3.20	3.20	3.50	3.50	4.44	3.60	-	3.60	-	-	3.60
<b>K-12 Dir. Fine &amp; Perf. Arts</b>	<b>2.15</b>	<b>2.15</b>	<b>2.15</b>	<b>2.75</b>	<b>2.75</b>	<b>2.75</b>	<b>1.00</b>	-	-	<b>1.82</b>	<b>2.82</b>
<b>World Languages</b>	<b>29.50</b>	<b>31.69</b>	<b>32.20</b>	<b>31.47</b>	<b>32.55</b>	<b>31.95</b>	-	31.95	-	-	31.95
<i>Broadmeadow</i>	1.20	2.20	2.00	1.65	1.40	1.37	-	1.37	-	-	1.37
<i>Elliot</i>	1.00	1.00	1.00	1.23	1.33	1.30	-	1.30	-	-	1.30
<i>Williams</i>	1.20	1.00	1.53	1.40	1.03	1.00	-	1.00	-	-	1.00
<i>Mitchell</i>	1.20	1.15	1.47	1.03	1.73	1.70	-	1.70	-	-	1.70
<i>Newman</i>	1.50	1.50	2.00	1.70	1.76	1.73	-	1.73	-	-	1.73
<i>High Rock</i>	1.80	2.00	2.00	2.00	2.03	2.00	-	2.00	-	-	2.00
<i>Pollard</i>	6.30	8.04	7.00	7.25	7.48	7.25	-	7.25	-	-	7.25
<i>HS</i>	15.30	14.80	15.20	15.20	15.83	15.60	-	15.60	-	-	15.60
<b>K-12 Dir. World Languages</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.40</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	-	-	-	<b>1.00</b>
<b>Subtotal K-12 Specialists</b>	<b>119.97</b>	<b>122.68</b>	<b>129.56</b>	<b>125.38</b>	<b>129.61</b>	<b>126.41</b>	<b>4.60</b>	<b>110.69</b>	<b>6.23</b>	<b>4.97</b>	<b>126.48</b>
<b>GRAND TOTAL</b>	<b>797.62</b>	<b>812.53</b>	<b>839.03</b>	<b>842.12</b>	<b>869.76</b>	<b>856.44</b>	<b>51.61</b>	<b>564.88</b>	<b>150.74</b>	<b>89.21</b>	<b>856.44</b>



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## Needham School Committee

January 24, 2023

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Agenda Item:     **School Committee Comments**

Background Information:

- Members of the School Committee will have an opportunity to report on events, information, and matters of interest not on the agenda.

Members of the School Committee available for comment:

Matthew Spengler, Chair

Andrea Longo Carter, Vice Chair

Connie Barr

Michael Greis

Elizabeth Lee

Michael O'Brien

Alisa Skatrud

Dilin Meloni, Student Representative member of School Committee

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## Needham School Committee

January 24, 2023

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Agenda Item:     **Information Items**

- Westborough Public Schools Request for Admittance to ACCEPT Education Collaborative
- [Black Ice](#) – Documentary
- FY24 Revolving Funds Budget Requests: Transportation, Athletics



## **WESTBOROUGH PUBLIC SCHOOLS**

45 West Main Street · Westborough, MA 01581 · 508-836-7700 · [www.westboroughk12.org](http://www.westboroughk12.org)

December 19, 2022

Dr. Donna Flaherty, Executive Director  
and ACCEPT Board of Directors  
ACCEPT Education Collaborative  
4 Tech Circle  
Natick, MA 01760

Dear Dr. Flaherty and Board Members,

It was a pleasure to attend the board meeting on December 7th, to discuss the Westborough Public Schools becoming a member of the ACCEPT Education Collaborative. The quality of discussion and the shared objectives and goals between our districts only reinforced our interest in becoming active members of ACCEPT. As a school district of 4,000 students, with a diverse population and a thriving community, we are focused on academic excellence, supporting all learners, and contributing to the educational dialogue on these topics.

We are a district that strongly believes in the mission statement of the collaborative:

*"To use the collective power of member school districts to provide programs and services that maximize the potential of students, their families, educators, and communities."*

This mission statement also aligns well with our 2021-2026 Strategic Plan, which has as one focus:

*"To create an authentic and personalized learning environment PK-22 that provides and fosters curiosity, choice, joy, and meaningful connections."*

We would very much like to work with ACCEPT to further the goals of both of our organizations. Currently we participate in several job-like groups, and we have students placed into some ACCEPT programs. We feel these experiences have been meaningful. We also actively collaborate with many of your partner districts and we are committed to contributing to the organization as well as benefiting from its dynamic resources.

Please let me know if there's anything additional we might be able to share to assist in your decision regarding our membership in the collaborative.

Thank you.

Amber Bock  
Superintendent



Dr. Donna Flaherty • Executive Director • [dflaherty@accept.org](mailto:dflaherty@accept.org)  
Center for Learning and Growth • 4 Tech Circle, Natick MA 01760  
Main Office 508.653.6776 • Fax 508.653.0878 • [accept.org](http://accept.org)  
Transportation 508.620.3875 • Fax 508.655.5008

January 3, 2023

RE: Westborough Public Schools request for ACCEPT Membership

Dear Board of Directors and School Committees,

Since its formation in 1974, ACCEPT Education Collaborative has established trusted partnerships to promote excellence and innovation in educational practice. The mission and purpose of ACCEPT is to leverage the collective power and resources of member school districts to provide excellent, cost-effective regional programs and services to unlock the potential of students, their families, educators and communities. ACCEPT offers a wide range of programs and services whose focus is to minimize the impact of student disabilities or relative weaknesses and maximize student outcomes including achievement, independence and participation in the community. We are committed to providing member districts with current services and do this through the guidance and authorization of the Board of Directors. ACCEPT's Board of Directors is composed of all member district Superintendents.

The Westborough Public Schools has sent a letter requesting admittance to the Collaborative. Superintendent Amber Bock was invited to speak at ACCEPT's Board of Directors meeting on December 7, 2022. The Board had an opportunity to understand the request for membership and to ask questions of the Superintendent. Superintendent Bock stated her respect for the work of ACCEPT and discussed meaningful ways that Westborough can contribute to the mission and vision of the ACCEPT Education Collaborative. The Board of Directors and ACCEPT are recommending admitting the Westborough Public School District to the Collaborative. The next step is for each member district School Committee to discuss this option and take a public vote to either admit or not admit the Westborough school district. The following is the formal process for admitting new member districts per the ACCEPT Education Collaborative Articles of Agreement:

Per the *ACCEPT Education Collaborative Agreement*:

**Section IX: Procedure for Admitting New Member Districts**

A new School Committee or Charter School Board may be added to ACCEPT consistent with approval of the Board and subsequent to amendment of the ACCEPT Collaborative agreement, consistent with the provisions of Section VIII, MGL c40, §4E and 603 CMR 50.03 to reflect such membership. The applicant School Committee or Charter School Board shall apply in writing for admission to ACCEPT no later than December 31st of the fiscal year prior to the fiscal year in which the applicant School Committee or Charter School Board seeks membership. A School Committee or Charter School Board may be admitted to the Collaborative as of July 1st of any fiscal year provided that *all required approvals, including each member School Committee votes to approve* the School District

or Charter School and that the approval of Board of Elementary and Secondary Education are obtained by the preceding April 30th of the fiscal year prior to the fiscal year in which the new member School Committee or Charter School Board is to be admitted to the Collaborative. If the process for amendment of the ACCEPT Articles of Agreement has not been finalized by July 1st, the new member district may appoint a non-voting representative to the ACCEPT Board. During the first year of membership, a newly admitted district will pay a 10% surcharge for all programs and services. During the second year of membership the surcharge will be reduced to 5%; the following years member district rates will apply.

I welcome any questions or concerns you may have. Please feel free to reach out to me. Thank you for your ongoing support.

Sincerely,

A handwritten signature in black ink that reads "Donna Flaherty, Ed.D." The signature is written in a cursive style with a large initial 'D' and a long, sweeping underline.

Donna Flaherty, Ed.D.

Executive Director

## Revolving Fund FY24 Budget Request

<b>Fund Name:</b>	<b>Transportation (2303-3161)</b>
<b>Fund Manager:</b>	<b>Transportation Director</b>
<b>Executive Summary:</b>	<b>No Change to the Fee of \$415 nor operating subsidy of \$415,757</b>

### Budget Overview:

The Needham Public Schools Transportation Program provides transportation services to and from school, as well as fee-based charter services to student groups and Town-wide programs. Funding for the program is derived from the School Operating Budget, the Transportation Revolving Fund and the state-funded METCO program. The Operating Budget pays for mandated services to special education students on Individualized Education Plans, as well as to regular education students in Grades K-6 who reside more than 2.0 miles from school. Children in Grades K-6 who live two or fewer miles from school and all children in Grades 7-12 pay a fee to ride the school bus of \$415/rider, annually. These fees are collected in the Transportation Revolving Fund, where they are used to pay the cost of providing transportation to fee-based riders. Charter transportation also is provided on a fee-basis from the revolving fund. The METCO program provides transportation to students traveling between Boston and Needham on a daily basis. To keep bus fees affordable for parents, the operating budget currently subsidizes the cost of providing school bus transportation services to fee riders in the amount of \$415,757 per year. Financial assistance is available for families who qualify under income guidelines, and children eligible for free/reduced lunch do not pay a fee.

### Enabling Legislation:

M.G.L. Chapter 44 Section 53E 1/2

### Critical Issues:

The most significant issues that Transportation faces are driver recruitment and retention, and service capacity. Needham Public Schools has felt the impact of the worldwide disruption in the labor market for drivers caused by the COVID-19 Pandemic. Although our contract providers are committed to doing their best to meet our home to school transportation needs, they are short-staffed. As a result, they are not always able to find substitutes to cover driver absences, resulting in routes without a driver. In addition, they may have difficulty covering athletic trips and other afterschool transportation needs. These providers have asked Needham to have backup plans at the ready.

Currently, Needham has limited capacity to provide the requested transportation backup services. Although our Transportation Director is a licensed pupil transportation (7D) van driver and can cover a van driver's absence, Needham does not employ any licensed substitute bus drivers – we rely on our contract provider to provide substitute buses in the event of an absence. (School bus drivers require a commercial driver's license, with a passenger endorsement.) Nor do we have the ability to cover more than one van driver absence at a time. Moreover, while we do employ our Needham bus and van drivers as charter drivers for athletic and extracurricular events, these drivers are fully scheduled and are generally unable to cover the additional trips customarily driven by our contract provider.

Additionally, Needham, like other school districts, finds it difficult to recruit new drivers. Although Needham made moves last year to improve the competitiveness of our positions (by increasing the number of paid holiday and vacation days, increasing van driver longevity and increasing the safety bonus, as well as implementing one-time recruitment and retention incentives), we continue to experience difficulty recruiting and retaining drivers. Two of Needham's van driver positions are vacant and one of three bus driver positions are vacant. To provide service, the Transportation Department has consolidated routes, 'out sourced' the transportation of 12 in-district students to Van Pool (at a cost of \$94,455) and added an additional contract bus driver at a cost of \$69,840. In addition, the Director routinely covers staff absences as the District's substitute van driver. Nevertheless, the ongoing vacancies have compromised the District's ability to respond to future vacancies or prolonged absences, while maintaining services to students.

Given the District's ongoing difficulty in recruiting and retaining drivers, the Transportation Department conducted a new survey of wages and benefits in October 2022. That survey revealed that Needham's wages are much less competitive than they were a year ago, particularly for bus drivers. Needham's wage scale for bus drivers (of \$23.94 - \$27.46) is significantly lower than wages offered by private companies and surrounding districts. Starting salaries of competing firms/ districts are in the \$27 - \$29 range, with Connolly Bus offering a maximum salary of \$31.00 for drivers. Needham appears to be losing ground in the area of van driver wages, as well. Although Needham's current hourly rate for van drivers (of \$18.41 - \$21.05) are consistent with that of many providers, the nearly CASE Collaborative (with whom Needham competes for drivers) has moved aggressively to increase its starting wage to \$24/hour.

Service capacity also is an issue for Needham Transportation. Historically, Needham buses have been full with a wait list of between 20-40 students. Between FY19 and FY20, Needham added two additional buses to relieve overcrowding and reduce the waitlist to between 10-15 students per year. During COVID, ridership declined dramatically as a result of social distancing and student demits. Current ridership of 2,068 (representing 37% of enrollment) is now closer to Pre-COVID levels. (During the 19/20 School Year, the Department transported 2,220 students.) As such, Needham is at or near capacity on many of its buses - particularly at Eliot, Sunita Williams and NHS. Needham also is at capacity on its special needs vans, a situation which has not changed as a result of COVID.

The cost of special education out-of-district (OOD) transportation has increased significantly in the current year and is projected to remain consistently high for FY24. Although OOD ridership has remained relatively steady since FY20 (at 70-76 students), there are a larger number of students being transported as singleton riders than in the past (particularly to Manville and LABB Burlington), as well as students being transported longer distances, at higher rates. (As an example, we are transporting one student to Crossroads in Marlborough, formerly in Natick, while another student formerly attending Mass Bay Community College is attending Framingham State.) A 2% increase is budgeted for Van Pool routes in FY24, consistent with our contract.

Finally, the radios used by the bus and van drivers are in need of replacement. This mission-critical equipment has reached the end of its useful life and is experiencing major issues with interference of transmission.

### **Critical Issues Addressed:**

The Department is working to address the driver shortage and recruitment/retention issue by adding to our vehicle infrastructure and improving our ability to recruit and retain bus and van drivers.

- The FY24 budget also proposes the addition of another bus (\$71,820), to address overcrowding on the Sunita Williams and Eliot routes and ensure that the District has adequate capacity going forward, should ridership increase to pre-Covid levels. The addition of another bus will allow greater flexibility in



reducing crowded buses and help improve timely routes in particular districts. It also will ensure that the middle school late bus remains available for late bus use.

- The Department has purchased a multifunction school activity bus (MFSAB), which can be used for extra-curricular trips and can be driven by staff members with a regular driver license. (By law, this vehicle cannot be used for transportation between home and school.) There is no operating budget request associated with this new vehicle for FY24.
- The FY24 budget also continues our recruitment and retention efforts by proposing to fund a rate increase for van and bus drivers in FY24, to increase the competitiveness of Needham wages relative to other Districts and transportation firms. We also recommend continuing the ‘one time’ sign on bonuses and training incentives, as needed to recruit new drivers, but not to continue the retention bonuses (in favor or permanently increasing wage rates.). The cost of the proposal is \$56,012, of which \$10,753 represent one-time non-wage adjustments (for training, etc) that would be paid from one-time budget savings.
- Additionally, a \$327,000 increase is proposed for out-of-district special needs transportation. This increase will provide the additional funding needed to meet the estimated FY24 out-of-district transportation expense of \$1,755,102.
- Finally, the FY24 budget requests funding (\$14,000) to replace the radios with GPS-enabled two-way radios to replace the antiquated radio system.

### Support for District Vision, Mission, Goals and Objectives:

The Department supports the District’s equity and Portrait of a Needham graduate in the following ways:

- Ensuring existing bus and van capacity to adequately meet the needs of all students.
- Ensuring that late bus services are available for all middle school students needing to stay after school for homework help, or to participate in extracurricular activities.
- Ensuring that the cost of transportation remains affordable to all families, through continued funding of a District subsidy toward the cost of fee-based transportation.

### FY24 Ridership

Projected ridership in FY24 is presented below. The budget scenario reflects a projected 0.72% change in projected enrollment, scaled across both St. Joe’s and NPS riders:

Ridership Stats	FY22 Actual		FY23 Budget		FY23 Projection		FY24 Budget	
	Riders	% Dist	Riders	% Dist	Riders	% Dist	Riders	% Dist
St Joes Eligible	24	43%	24	42%	21	55%	21	55%
St Joes Fee Based (inc waivers)	32	57%	33	58%	17	45%	17	45%
Total St. Joes	56	100%	57	100%	38	100%	38	100%
NPS Eligible	408	22%	271	17%	418	22%	421	22%
NPS Fee Based (inc waivers)	1,407	78%	1,371	83%	1,458	78%	1,469	78%
Total NPS	1,815	100%	1,643	100%	1,876	100%	1,890	100%
Total Eligible	432	23%	295	17%	439	23%	442	23%
Total Fee Based	1,439	77%	1,405	83%	1,475	77%	1,486	77%
Grand Total NPS & STJ	1,871	100%	1,700	100%	1,914	100%	1,928	100%

### Total (Combined) Program Budget:

In FY24, the combined budget of the Transportation Program is \$3,678,542, with two major sources of funds: the Operating Budget and the fees collected in the Transportation Revolving Fund.

FY24 Budget	Operating	Fee-Based	Total
Carry Forward	\$0	\$334,731	\$334,731
Current Revenue	\$3,151,909	\$595,535	\$3,747,444
Current Expense	<u>\$3,151,909</u>	<u>\$526,633</u>	<u>\$3,678,542</u>
Ending Fund Balance	\$0	\$403,633	\$403,633

The Superintendent recommends an Operating Budget allocation of \$3,151,909 and a revolving fund budget totaling \$526,633.

The revolving fund collects fees from riders living less than two miles from school, as well as revenue from the charter-based use of school buses and vans.

To encourage ridership and relieve the financial burden on families, the School Committee subsidizes the cost of providing service to fee-paying families. The current subsidy of \$415,757 represents 35% of the overall yellow bus contract.

**Total Program Staffing:**

The Transportation Program is staffed by a full-time Director (paid from the revolving fund), a part-time bookkeeper (split between the revolving fund and operating budget), a full-time program specialist (funded from the operating budget), three bus drivers, eight van drivers and four part-time van monitors.

The chart below shows budgeted FTE for the program, which totals 12.03 FTE (the same as in the prior two years):

	FY22 Actual Total	FY23 Budget Total	FY23 Proj Total	FY24 Budget Operating	FY24 Budget Revolving	FY24 Budget Total
Director	1.00	1.00	1.00		1.00	1.00
Bookkeeper	0.57	0.57	0.57	0.29	0.29	0.57
Program Asst	1.00	1.00	1.00	1.00		1.00
Office Aide				-	-	
Bus Driver	2.46	2.46	2.46	2.46		2.46
Van Driver	5.71	5.71	5.71	5.71		5.71
Van Monitor	<u>1.29</u>	<u>1.29</u>	<u>1.29</u>	<u>1.29</u>	<u>-</u>	<u>1.29</u>
Total	12.03	12.03	12.03	10.75	1.29	12.03

**Revolving Fund Revenues:**

The FY24 Transportation Revolving Fund budget assumes current revenues of \$595,535, which includes \$557,418 in fee revenues, plus \$38,117 in charter trip revenues. No change is proposed to the \$415 user fee, the \$840 family cap, nor to the \$50 surcharge for late registrations. Students who are eligible for free/reduced lunch receive a state-mandated 100% fee waiver. Additional income assistance is provided on the following basis: families whose income is less than twice the federal poverty level pay \$25/family for transportation; families with incomes are between twice and four times the federal poverty level pay a prorated fee per rider.

The \$557,518 fee collection assumes:

- 1,486 riders paying the \$415 fee \$616,540
  - 120 free/reduced lunch eligible riders paying \$0 (fee offset) (\$49,970)
  - 6 riders paying a prorated fee under the income-based sliding scale (fee offset) (\$3,127)
  - 29 families receiving relief under the \$840 family cap (fee offset) (\$12,575)
  - 131 riders paying a \$50 late fee ( \$6,550)
- Total \$557,418**

FY24 fee revenue foregone under the \$840 Family Cap is summarized below:

# Stud PRo Pay	# Stud Full Pay	# Stud No Pay	Fee Revenues Foregone Under Family Cap				
			# Riders In Family	# Families	Max Fee Per Family	Fee Relief Per Family	TL Relief All Families
0	0	0	6	0	\$840	\$1,650	\$0
0	0	0	5	0	\$840	\$1,235	\$0
2	4	2	4	2	\$840	\$820	\$1,640
27	54	0	3	27	\$840	\$405	\$10,935
29	58	2		29			\$12,575

Fee revenue foregone under the income waiver for families who are ineligible for free/reduced lunch, or who do not wish to claim eligibility benefits, is shown in the chart below:

Fee Revenues Foregone Under Income Waiver (Ineligible F/R)				
Revenue Loss:				
	#	Fee	Total \$	
	6	\$415	2,490	Est. Revenue in Paid Full Fee
Prorated Revenue Paid:				
		\$ 7.80	(637)	
	-	Prorated	Estimated	
		Subtotal	(637)	
		Net Loss	(3,127)	

FY24 projected charter fee revenues are \$38,117 and are based on FY23 actual activity. Offsetting expenses total \$27,463.08 for an anticipated net profit of \$10,654. All charter profits go toward subsidizing the cost of yellow bus transportation for families.

Fees to parents have increased steadily over time, but at an average annual rate roughly comparable to the rate of inflation. Over the past fifteen years, the transportation fee has grown by the equivalent rate of 0.8% per year. A fifteen-year fee chart is displayed below. The ongoing recommendation of the Transportation

Subcommittee is for fees to remain at \$415, with only nominal increases permitted in the future, consistent with inflation.

Needham Public Schools Transportation Fees: FY09-24

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
\$370	\$370	\$370	\$370	\$390	\$395	\$395	\$395	\$395	\$415	\$415	\$415	\$415	\$415	\$415	\$415

**Revolving Fund Expenses:**

FY24 Revolving Fund expenses total \$526,633 and include \$499,170 in regular transportation expense and \$27,463 in charter trip driver, fuel and travel expenses. Program expenses include salary and benefit expenses, contractual bus and van expense, vehicle maintenance and inspection, radios, fuel, routing software, driver random drug/alcohol testing, driver training and meeting expenses, memberships, bus pass expense, fee refunds, administrative supplies and other expenses. The per diem cost of a yellow school bus increases by 2.8% in FY24 from \$388 to \$399.

**Ending Fund Balance:**

The FY24 budget projects a beginning fund balance of \$334,731. Projected ending fund balance in FY24 is \$403,633, which is higher than the target three-month operational reserves (or \$184,828.)

**Capital Vehicle Replacement**

The replacement cycle for pupil transportation vehicles began in FY17 with the replacement of the two KASE buses. FY18 was the first year of the planned replacement cycle for school vans. In FY22, two lift-equipped vans are expected to be replaced. In FY23, a school bus is expected to be replaced. Also, in FY24, two vans are expected to be replaced.

**FY24 Proposed Budget:**

The FY24 combined budgets of the transportation program is attached.



	TRANS IN-STATE TRAVEL	0001.3160.055.99.3300.099.99.520.030.5710.300.06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS DUES & MEMBERSHIPS	0001.3160.055.99.3300.099.99.520.030.5730.300.06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS COMMUNICATION	0001.3160.099.99.3300.099.99.520.030.5340.300.04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Communications (Production Center)	TRANSPORTATION COMMUNICATION POSTAGE	0001.3160.099.99.3300.099.99.520.030.5341.300.04	2303.3161.090.99.3300.099.99.520.030.5341.303.99	-	140	-	-	757	-	-	-	-	-	-	-	-	-	9,800	
	TRANS OTHER PURCHASED SERVICES	0001.3160.099.99.3300.099.99.520.030.5380.300.04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS EDUCATIONAL SUPPLIES	0001.3160.099.99.3300.099.99.520.030.5510.300.05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS IN-STATE TRAVEL	0001.3160.099.99.3300.099.99.520.030.5710.300.06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS DUES & MEMBERSHIPS	0001.3160.099.99.3300.099.99.520.030.5730.300.06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS OTHER EXPENSES	0001.3160.099.99.3300.099.99.520.030.5780.300.06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TRANS ADD EQUIPMENT - VEHICLES	0001.3160.099.99.7500.099.99.520.200.5851.300.99		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	C44 53E 1/2 TRANS PRINT & MAILING		2303.3161.090.99.3300.099.99.520.030.5345.303.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	C44 53E 1/2 TRANS OFFICE SUPPLIES		2303.3161.090.99.3300.099.99.520.030.5420.303.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	C44 53E 1/2 TRANS OTHER SUPPLIES		2303.3161.090.99.3300.099.99.520.030.5580.303.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	C44 53E 1/2 TRANS HEALTH INS ACTIVE EMPLOYEES		2303.3161.090.99.5200.099.99.520.010.5173.303.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal				3.83	884,975.61	1.29	527,016.33	3.83	992,513.00	1.00	- .00	5.58	979,029.83	1.29	465,510.75	5.58	1,100,884.00	1.29	499,170.27
<b>TOTAL EXPENSES</b>				<b>12.03</b>	<b>2,550,399</b>	<b>1.29</b>	<b>595,674</b>	<b>12.03</b>	<b>2,680,134</b>	<b>1.00</b>	<b>-</b>	<b>12.70</b>	<b>3,028,180</b>	<b>1.29</b>	<b>492,974</b>	<b>12.70</b>	<b>3,151,509</b>	<b>1.29</b>	<b>526,633</b>
<b>UNDER/(OVER) AVAIL REV</b>					<b>103,614</b>		<b>249,190</b>		<b>-</b>		<b>1,048,039</b>		<b>(348,046)</b>		<b>334,731</b>		<b>-</b>		<b>403,633</b>

## Revolving Fund FY24 Budget Request

<b>Fund Name:</b>	<b>High School Athletics</b>
<b>Fund Manager:</b>	<b>High School Athletics Director</b>
<b>Executive Summary:</b>	<ul style="list-style-type: none"> <li>● <b>Proposed \$50,000 increase to operating subsidy (operating budget request). As a result, the FY24 share of the District’s coaching stipends funded from revolving drops from \$157,415 to \$107,415.</b></li> <li>● <b>Proposed \$6,093 scale adjustment to varsity coaching stipends (operating budget request)</b></li> <li>● <b>Discontinue snowboarding club stipend at \$1,727 (operating request)</b></li> </ul>

### Fund Description:

The NPS Athletic Department consists of 36 Interscholastic, 12 Club and 2 Unified Sports at the High School, offering 91 teams at the Varsity, Junior Varsity, Freshman and Club Levels, and 13 Middle School programs with 17 teams. In FY24, it is projected that 1,950 total participant spots (1,640 Interscholastic / 310 Club) will be filled at the High School and 450 spots at the Middle School level. These spots are filled with approximately 1,450 student-athletes competing on one or more teams at the High School or Middle School.

The current athletic user fee is \$300 per athlete per Interscholastic sport, and \$235 per athlete per Club sport. In order to help offset facility rental costs, Varsity Ice Hockey along with all Ski & Snowboarding participants pay an additional \$330 surcharge, Club Sailing and Club Squash participants pay an additional \$190, Club Water Polo participants pay an additional \$80, and Swimming and Diving participants pay an additional \$55. Fees are capped at 4 sports per family per year. The Athletic Program also derives funding from the regular school operating budget, gate fees, and donations. Middle School Sports carry a \$235 user fee for Cross Country, Field Hockey, Track, Frisbee and Dance or a \$260 user fee for Volleyball, Basketball, Softball and Wrestling.

### Enabling Legislation:

M.G.L. Chapter 71, Section 47.

### Support for District Vision, Mission, Goals and Objectives:

The Athletics Program supports Portrait of a Needham Graduate Priority 4.a, which provides staffing, facilities and budget resources that are aligned to district priorities.

### Critical Issues:

New critical issues for the Athletics Program are:

- The potential loss of revenue from gate receipts due to limited or no attendance at games throughout the Pandemic, as well as the loss of gate revenue from MIAA tournament events held at home sites. Historically, the MIAA has run the gate for regional semifinal tournament games held at neutral sites. The MIAA recently mandated that they will also run the gate for tournament events held at home sites, thereby eliminating Needham’s ability to sell tickets at those events. Although Needham will continue to receive a small payment from the MIAA to cover the cost of staffing, this change will result in lost revenue for the Athletic Department. The revenue loss is estimated at \$10,000 for FY23.

- Ensuring sufficient transportation to away events, given the shortage of drivers and later dismissal times (outside of the High School), which cuts down on the availability of District drivers to take after school trips.
- Additional costs for renting outside venue, including increasing rates for pool rentals and ski lift tickets, and the potential cost of moving gymnastics out of the High School and to an off-site facility.
- The waning interest in the snowboarding program and shift of interest to the skiing program

Ongoing critical issues continue to be:

- Escalating program costs, which are likely to require an increase in the student fee and/or an increase in the amount of Operating Budget support for this program in the future. These costs include higher transportation expenses arising from higher contractual rates, and general increases in hourly rates for skating venues. Escalating program expenses was the focus of the 2019 Athletics Fiscal Sustainability review, which had recommended a phased increase in the operating budget subsidy over time to reduce this program's over-reliance on fees and shift the mix of funding to a more sustainable 50/50 target between operating and fee revenues. Although the FY20 budget included a \$40,000 increase in the operating subsidy, neither the FY21 nor the FY22 budget included the planned \$30,000 subsidy increase, due to the dislocation caused by the Pandemic. (The report had recommended a second-year subsidy increase of \$30,000, a third-year increase of \$25,000 and a fourth-year increase of \$20,000.)
- Increased difficulty with ice time scheduling.
- Concern for the ongoing ability to recruit and retain qualified coaches.

### **Critical Issues Addressed:**

The FY24 budget continues the funding recommendation of the 2019 sustainability report by requesting a \$50,000 subsidy increase, consistent with the multi-year phase in. This subsidy is needed to ensure that current revenues are sufficient to offset current expenses. This will help move the department towards the multi-year goal of a 60% / 40% funding breakdown of operational funds vs fees; post-subsidy, the portion of share of the Athletics Program budget funded from operating is 52.5%. As a result of the \$50,000 subsidy, the share of the District's coaching stipends funded from revolving drops from \$157,415 to \$107,415.

In addition, the Superintendent recommends funding for the second (and final) year of a multi-year scale adjustment to the varsity coaching stipends, or \$6,093. This adjustment improves Needham's competitiveness with other districts and creates internal equity between sports. Prior to the adjustment, coaches in traditional sports (such as baseball, soccer, swimming, etc.) were compensated at a higher rate than coaches in other sports, despite an equivalent level of effort and commitment on the coach's part. The adjustment, which set the stipend for all varsity coaches in sports that run five days per week at \$6,550 before cola, will address the department's concern over recruitment and retention. Coaches whose compensation was higher than the \$6,550 amount (football, basketball, hockey, wrestling) have been held harmless.

Last, the Superintendent recommends discontinuing the Snowboarding program, effective in FY2024. The snowboarding program was originally created to address students who were interested in snowboarding but only had skiing as an option. Over time, that interest in snowboarding has waned – most students have returned focus on skiing. Of those who continue to be interested in snowboarding, participants largely are primarily interested in recreation, and not interest in interscholastic or regional competitions - which does not align with the mission of the Athletics Department. Therefore, the Superintendent recommends discontinuing the program, which will reduce \$1,727 of coaching expense (included in the operating budget).



## Overall Program FY24 Budget:

Total budgeted program revenues are \$1,562,134, which includes user fee receipts of \$678,085, \$50,200 in gate receipts, donations of \$25,500 from the Boosters to cover waivers and a \$808,349 requested allocation from the Operating Budget.

Given an estimated beginning fund balance of \$158,241 in the revolving fund and \$21,309 in the donation account, the FY24 projected ending revolving fund balances are \$194,179 and \$21,309, respectively.

## Description of Revolving Fund Revenues:

In FY24, total Revolving Fund revenues are \$728,285. These revenues include \$678,085 in user fees and \$50,200 in gate receipts.

Historical and proposed program fees are shown below:

Athletics Participation Fee	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	\$ Inc	% Inc
User Fee	\$285	\$285	\$285	\$285	\$285	\$285	\$285	\$285	\$285	\$300	\$300	\$300	\$300	\$300	\$0	0%
User Fee - Club, Middle School				\$225	\$225	\$225	\$225	\$225	\$225	\$235	\$235	\$235	\$235	\$235	\$0	0%
Family Cap	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$1,140	\$0	0%
Hockey Surcharge	\$250	\$250	\$250	\$250	\$250	\$250	\$300	\$300	\$300	\$330	\$330	\$330	\$330	\$330	\$0	0%
Ski Surcharge	\$250	\$250	\$250	\$250	\$250	\$250	\$300	\$300	\$300	\$330	\$330	\$330	\$330	\$330	\$0	0%
Swim Surcharge	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$55	\$55	\$55	\$55	\$100	\$100	\$45	82%
Sailing Club Surcharge				\$175	\$175	\$175	\$175	\$175	\$190	\$190	\$190	\$190	\$190	\$190	\$0	0%
Squash Club Surcharge					\$175	\$175	\$175	\$175	\$190	\$190	\$190	\$190	\$190	\$190	\$0	0%
Bowling Club Surcharge					\$75	\$75	\$75	\$75	\$80	\$80	\$80	\$80	\$80	\$80	\$0	0%
Fencing Club Surcharge						\$175	\$175	\$175	\$175	\$190	\$190	\$190	\$190	\$190	\$0	0%
Snowboarding Club Surcharge						\$175	\$225	\$225	\$225	\$250	\$250	\$250	\$250	Discontinued	N/A	N/A
Water Polo Club Surcharge						\$75	\$75	\$75	\$75	\$80	\$80	\$80	\$100	\$100	\$20	25%
Ice Hockey Club Surcharge									\$175	\$175	\$175	\$175	\$175	\$175	\$0	0%
MS Volleyball Surcharge							\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$0	0%
MS Basketball Surcharge							\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$0	0%
MS Wrestling Surcharge							\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$0	0%
MS Softball Surcharge							\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$25	\$0	0%

FY24 Revenues by Sport are detailed in Attachment A.

As mentioned above, the overall program budget also includes \$808,349 in operating funds and \$25,500 in donated revenues which are received outside of the Revolving Fund, but which go toward supporting the overall Athletics Budget. The donated funds represent fee waivers provided by the Booster Club to needy student athletes.

## Revolving Fund Expenditures:

The FY24 Revolving Fund expenditures total \$692,348. Components of the expenditure budget include: \$17,977 of bookkeeper salary; \$107,415 of coach expense; \$37,069 in Assistant Director Salary; \$16,980 for officials; \$20,740 for middle school transportation; \$7,389 for game workers; \$6,363 for middle school equipment; \$600 for memberships; \$165,750 for venue fees; \$156,215 for NHS transportation; \$82,515 for other purchased services; \$55,734 for NHS equipment; and \$17,600 for NHS membership fees.

The overall program budget also includes \$833,849 in expenses funded outside of the Revolving Fund, by the Operating Budget and donation account. The requested Operating Budget funding of \$808,349 funds the remaining portion of departmental staff (Director, Assistant Director, Bookkeeper/Secretary), the coaches, the trainer, unified sports transportation and equipment, professional development expense and other expenses. The \$25,500 donation account waivers will offset transportation expenses.

## Revolving Fund Program Staffing:

As noted above, the FY24 Revolving Fund Budget includes a portion of the department staff, supervision and coaching stipends. The department is managed by the Director of Athletics and the Assistant Director and supported by 1.3 FTE of bookkeeping staff. The coaching positions include head coaching positions as well as assistant coaches who provide supervision and support for each team.

**Revolving Fund Balance:**

The projected ending balance in the Revolving Fund is \$194,179, which represents an increase from the beginning carry over balance of \$158,241. The Program’s fund balance is the result of Revolving Fund operations while the donation account also maintains a fund balance of \$21,309. The revolving fund ending balance, equivalent to approximately 2.8 months of expenditures will be sufficient to meet unanticipated program expenses and cash flow needs for FY24. Over time, we anticipate annual surpluses in the revolving account will allow the program to accumulate a fund balance closer to the targeted three months of operating expenditures, or approximately \$210,000.

**FY24 Proposed Budget:**

The FY24 Combined Budget of the Athletics Program is presented as Attachment A. A detailed breakout of the FY24 budget by sport is presented as Attachment B. Subsequent attachments present detail for the current year.

	FY22	FY22	FY22	FY23	FY23	FY23	FY23	FY23	FY23	FY24	FY24	FY24
Athletics Combined Program Budget	Actual	Actual	Actual	Budget	Budget	Budget	Projection	Projection	Projection	Budget	Budget	Budget
	Operating	Revolving	Donation	Operating	Revolving	Donation	Operating	Revolving	Donation	Operating	Revolving	Donation
<b>BEGINNING CARRY OVER</b>	-	127,935	7,766	-			-	164,359	21,309	-	158,241	21,309
<b><u>Current Revenue</u></b>												
Operating Revenue	\$688,989			\$741,275			\$741,275			\$808,349		
NHS User Fees	\$0	\$643,957	\$0		\$725,747			\$692,935			\$678,085	
NHS Miscellaneous Revenue	\$0	\$0	\$0									
Pollard User Fees	\$0	\$89,732	\$0		\$0	\$0		\$48,180			\$50,200	
Pollard Miscellaneous Revenue	\$0	\$0	\$0		\$0	\$0						
Donations	\$0	\$0	\$40,892			\$25,500			\$25,500			\$25,500
<b>TOTAL CURRENT REVENUE</b>	<b>\$688,989</b>	<b>\$733,689</b>	<b>\$40,892</b>	<b>\$741,275</b>	<b>\$725,747</b>	<b>\$25,500</b>	<b>\$741,275</b>	<b>\$741,115</b>	<b>\$25,500</b>	<b>\$808,349</b>	<b>\$728,285</b>	<b>\$25,500</b>
<b><u>Administration / Overhead</u></b>												
Overtime	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Director, Assistant Director Salaries	\$164,081	\$0	\$0	\$174,188	\$0	\$0	\$170,487	\$0	\$0	\$182,987	\$0	\$0
Bookkeeper Salary	\$54,646	\$0	\$0	\$62,236	\$0	\$0	\$42,120	\$0	\$0	\$53,003	\$0	\$0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Director Longevity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bookkeeper Longevity	\$750	\$0	\$0	\$0	\$0	\$0	\$750	\$0	\$0	\$750	\$0	\$0
Other Services (Trainer, Fencing Club)	\$31,510	\$0	\$0	\$6,800	\$0	\$0	\$28,669	\$0	\$0	\$31,720	\$0	\$0
Unit B Professional Development	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000	\$0	\$0	\$2,000	\$0	\$0
Nurse	\$0	\$152	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bookkeeper Salary	\$0	\$16,843	\$0	\$0	\$17,539	\$0	\$0	\$17,539	\$0	\$0	\$17,977	\$0
Coach Expense / Journal	\$0	\$109,318	\$0	\$0	\$128,178	\$0	\$0	\$153,540	\$0	\$0	\$107,415	\$0
Assistant Director Salary	\$0	\$34,671	\$0	\$0	\$36,165	\$0	\$0	\$36,165	\$0	\$0	\$37,069	\$0
Trainers	\$0	\$9,755	\$0	\$22,517	\$25,362	\$0	\$0	\$20,000	\$0	\$0	\$0	\$0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subtotal</b>	<b>\$250,986</b>	<b>\$170,739</b>	<b>\$0</b>	<b>\$265,741</b>	<b>\$207,244</b>	<b>\$0</b>	<b>\$244,026</b>	<b>\$227,244</b>	<b>\$0</b>	<b>\$270,460</b>	<b>\$162,462</b>	<b>\$0</b>
<b><u>Sports Expenses</u></b>												
Coach Stipends	\$438,003	\$0	\$0	\$471,034	\$0	\$0	\$493,549	\$0	\$0	\$528,589	\$0	\$0
Officials	\$0	\$10,920	\$0	\$0	\$69,337	\$0	\$0	\$17,930	\$0	\$0	\$16,980	\$0
Educational Supplies	\$0	\$0	\$0	\$0	\$0	\$0	\$3,700	\$0	\$0	\$3,700	\$0	\$0
Other Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,100	\$0	\$0
Transportation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,500	\$0	\$0
Transportation	\$0	\$22,923	\$0	\$0	\$0	\$0	\$0	\$21,420	\$0	\$0	\$20,740	\$0
Game Workers	\$0	\$7,646	\$0	\$0	\$15,697	\$0	\$0	\$7,389	\$0	\$0	\$7,389	\$0
Other Purchased Services (Amazon)	\$0	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment (Sportswear, Pyramid School Products)	\$0	\$6,538	\$0	\$0	\$0	\$0	\$0	\$6,155	\$0	\$0	\$6,363	\$0
Memberships	\$0	\$1,795	\$0	\$0	\$0	\$0	\$0	\$600	\$0	\$0	\$600	\$0
Refunds and Reimbursements	\$0	\$2,885	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Purchased Services (Amazon)	\$0	\$1,709	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Venue Fees	\$0	\$108,280	\$0	\$0	\$142,534	\$0	\$0	\$166,150	\$0	\$0	\$165,750	\$0
Transportation	\$0	\$152,360	\$0	\$4,500	\$150,056	\$25,500	\$0	\$150,235	\$25,500	\$0	\$156,215	\$25,500
Other Purchased Services (Beverages, Taxes, Needham Police, Parents Ref)	\$0	\$79,427	\$0	\$0	\$6,950	\$0	\$0	\$84,745	\$0	\$0	\$82,515	\$0
Other Purchased Services (Amazon, WB Mason)	\$0	\$558	\$0	\$0	\$21,985	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Equipment (Sportswear, Pyramid School Products)	\$0	\$57,555	\$0	\$0	\$72,478	\$0	\$0	\$52,365	\$0	\$0	\$55,734	\$0
Memberships	\$0	\$26,824	\$0	\$0	\$32,555	\$0	\$0	\$13,000	\$0	\$0	\$17,600	\$0
Refunds and Reimbursements	\$0	\$15,540	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
MFSAB	\$0	\$31,550	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations	\$0	\$0	\$180	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations	\$0	\$0	\$10,143	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations	\$0	\$0	\$17,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations	\$0	\$0	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Subtotal</i>	438,003	526,524	27,348	475,534	511,592	25,500	497,249	519,989	25,500	537,889	529,886	25,500
<b>TOTAL EXPENSES</b>	<b>688,989</b>	<b>697,264</b>	<b>27,348</b>	<b>741,275.00</b>	<b>718,836.00</b>	<b>25,500.00</b>	<b>741,275.00</b>	<b>747,233.00</b>	<b>25,500.00</b>	<b>808,349.36</b>	<b>692,347.60</b>	<b>25,500.00</b>
<b>UNDER/(OVER) AVAIL REV</b>	-	164,359	21,309	-	6,911	-	-	158,241	21,309	-	194,179	21,309

