



# *Needham School Committee*

*January 28, 2020*

*7:00 p.m.*

*Broadmeadow School  
School Committee Room*

*A school and community partnership that creates excited learners,  
inspires excellence, fosters integrity*



## **SCHOOL COMMITTEE MEETING AGENDA**

**Broadmeadow School  
School Committee Room**

**January 28, 2020 7:00 p.m.**

Next School Committee Meeting: February 4, 2020

**7:00 p.m. Public Comments**

**7:05 p.m. School Committee Comments**

**7:10 p.m. Superintendent's Comments**

**7:15 p.m. Consent Items**

1. FY20 Budget Transfers
2. Accept Donations
3. Allocation of FY20 Photography Commission

### **Discussion Items**

**7:15 p.m. Athletic Program Update**

**7:45 p.m. Middle School and Needham High School 2020-2021 Program of Studies**

**8:30 p.m. 2020-2021 School Calendar**

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

- IGA Instructional Program of the Needham Public Schools Revision 1
- IGAC Teaching about Religion Revision 1
- DDAA Grants
- DDAB Gifts, Donations and Fundraising
- DDAC Student Awards, Honors and Scholarships
- JQ Student Fees, Fines, and Charges

**9:00 p.m. Action Items**

Vote FY2020-21 School Operating Budget  
Approve 2020 Annual Town Meeting Warrant Article Requests  
Approve FY21 Revolving Fund Fees  
Approve Contract Extension for METCO Transportation

**9:15 p.m. School Committee Comments**

### **Information Item**

Disposal of Surplus Items



## Needham School Committee

January 28, 2020

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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 28, 2020

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

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:

Michael Greis, Chair  
Andrea Longo Carter, Vice-Chair  
Connie Barr  
Heidi Black  
Susan Neckes  
Aaron Pressman  
Matthew Spengler



## Needham School Committee

January 28, 2020

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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 28, 2020

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Agenda Item:     **Consent Agenda**

1. FY20 Budget Transfers
2. Accept Donations
3. Allocation of FY20 Photography Commission

Chair: "Does anyone wish to remove any item from the consent agenda?"

If none removed:

"There being no objection, these items are adopted by unanimous consent."

## ***NEEDHAM SCHOOL COMMITTEE***

**Agenda Item #:** \_\_\_\_\_

**Date:** January 28, 2020

**Item Title:** **FY 2019/20 Budget Transfers - Holdback**

**Item Description:** Transfer of FY20 budget allocations between line items in the following amounts:

Salaries	\$260,137.00
Purchase of Service/Expense	(\$260,137.00)
Capital	<u>\$0.00</u>
Net Change:	\$0.00

**Issues:** Under Massachusetts General Law Chapter 71, Section 34, and School Committee Policy #DBJ, the School Committee is empowered to make changes in allocations between line items within its budget, once approved by Town Meeting. In no case may a transfer result in the aggregate Operating Budget being more than authorized by the Town. Transfers between separate, non-operating appropriations are prohibited except as permitted by law.

**Recommendation/Options:** Approve the attached line item budget transfers.

**Rationale:** The attached line item budget transfers are requested to implement a holdback of budget funds in FY20, to provide supplement funds with which to address anticipated shortfalls within the school operating budget.

**Implementation Implications:**

**Supporting Data:** Attached listing of requested line-item budget transfers within the FY20 Operating Budget.

School Committee (circle one)

Action	Information	Discussion	<u>Consent Calendar</u>
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Central Administrator	Town Counsel	Sub-Committee: _____
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Will report back to School Committee (date): \_\_\_\_\_

Respectfully Submitted,

*Anne Gulati*

Anne Gulati  
Assistant Superintendent for Finance & Operations

G/L ACCOUNT #	DEPARTMENT	SCHOOL	FUNCTION	OBJECT	DEBIT	CREDIT	NET
<b><u>SALARIES</u></b>							
0001.3122.005.10.2305.099.99.520.010.5110.300.01	Salary Reserve	District	Classroom Teachers	Salaries and Wages	260137.00	0.00	260,137.00
<b>SUBTOTAL SALARIES</b>					<b>260,137.00</b>		<b>260,137.00</b>
<b><u>PURCHASE OF SERVICE &amp; EXPENSE</u></b>							
0001.3010.040.99.1110.099.99.520.030.5780.300.06	School Committee	Unassigned	School Committee	All Other Expenses	0.00	762.00	(762.00)
0001.3020.040.99.1210.099.99.520.030.5380.300.04	Superintendent	Unassigned	Superintendent	Other Purchased Services	0.00	78.00	(78.00)
0001.3030.040.99.1420.099.99.520.030.5300.300.04	Director of Personnel	Unassigned	Human Resources and Benefits	Professional and Technical Services	0.00	196.00	(196.00)
0001.3031.040.99.1220.099.99.520.030.5780.300.06	Dir of Student Dev	Unassigned	Assistant Superintendent	All Other Expenses	0.00	3087.00	(3,087.00)
0001.3032.040.99.1220.099.99.520.030.5420.300.05	Dir of Program Dev	Unassigned	Assistant Superintendent	Office Supplies	0.00	233.00	(233.00)
0001.3040.040.99.1410.099.99.520.030.5710.300.06	Dir of Fin Ops	Unassigned	Business and Finance	In-State Travel	0.00	2374.00	(2,374.00)
0001.3110.005.10.2356.099.99.520.030.5780.300.06	Professional Development	District	Professional Development	All Other Expenses	0.00	1326.00	(1,326.00)
0001.3121.040.99.1420.099.99.520.030.5510.300.05	Staff 504 Accom	Unassigned	Human Resources and Benefits	Educational Supplies	0.00	62.00	(62.00)
0001.3132.005.10.2356.099.99.520.030.5710.300.06	Curriculum Development	District	Costs for Instructional Staff to Attend PD	In-State Travel	0.00	1500.00	(1,500.00)
0001.3132.005.10.2415.099.99.520.030.5512.300.05	Curriculum Development	District	Other Instructional Materials	Educational Supplies - Inst Materials	0.00	1589.00	(1,589.00)
0001.3133.005.10.2440.099.99.520.030.5730.300.06	Gen Supplies	District	Other Instructional Services	Dues and Membership	0.00	7276.00	(7,276.00)
0001.3141.040.99.1230.099.99.520.030.5420.300.05	Production Center	Unassigned	Other District-wide Administration	Office Supplies	0.00	1313.00	(1,313.00)
0001.3150.040.99.1450.099.99.520.030.5524.300.04	Admin Tech	Unassigned	Admin Tech Support - Central Office	Educational Supplies - Inst Software	0.00	10138.00	(10,138.00)
0001.3160.010.99.3300.099.99.520.030.5380.300.04	Transportation	Unassigned	Transportation Services	Other Purchased Services	0.00	2417.00	(2,417.00)
0001.3210.005.21.2430.090.99.520.030.5510.300.05	Broadmeadow	Broadmeadow	All Non-Clerical Paraprofessionals and TA's	Educational Supplies	0.00	2858.00	(2,858.00)
0001.3220.005.22.2415.090.99.520.030.5512.300.05	Eliot	Broadmeadow	Other Instructional Materials	Educational Supplies - Inst Materials	0.00	1488.00	(1,488.00)
0001.3230.005.23.2430.090.99.520.030.5510.300.05	Williams	Williams	General Supplies	Educational Supplies	0.00	1802.00	(1,802.00)
0001.3240.005.24.2430.090.99.520.030.5510.300.05	Mitchell	Mitchell	General Supplies	Educational Supplies	0.00	2065.00	(2,065.00)
0001.3250.005.25.2430.090.99.520.030.5510.300.05	Newman	Newman	General Supplies	Educational Supplies	0.00	2145.00	(2,145.00)
0001.3260.005.26.2358.099.99.520.030.5730.300.06	High Rock	High Rock	Outside PD for Instructional Staff	Dues and Membership	0.00	2567.00	(2,567.00)
0001.3300.005.30.2440.099.99.520.030.5380.300.04	Pollard	Pollard	Other Instructional Services	Other Purchased Services	0.00	5108.00	(5,108.00)
0001.3400.005.40.2358.099.99.520.030.5303.300.04	NHS	NHS	Outside PD for Instructional Staff	P&T Seminars and Training	0.00	11343.00	(11,343.00)
0001.3410.040.40.3510.099.99.520.030.5510.300.05	NHS Athletics	NHS	Athletics	Educational Supplies	0.00	700.00	(700.00)
0001.3510.099.40.2710.099.99.520.030.5730.300.06	Guidance	NHS	Guidance and Adjustment Counselors	Dues and Membership	0.00	2332.00	(2,332.00)
0001.3520.040.25.3200.099.99.520.030.5500.300.05	Health/Nursing	Newman	Medical and Health Services	Medical Supplies	0.00	500.00	(500.00)
0001.3520.040.23.3200.099.99.520.030.5500.300.05	Health/Nursing	Williams	Medical and Health Services	Medical Supplies	0.00	642.00	(642.00)
0001.3530.010.10.2356.099.99.520.030.5780.300.06	Special Education	District	Costs for Instructional Staff to Attend PD	All Other Expenses	0.00	2731.00	(2,731.00)
0001.3530.010.10.2420.099.99.520.030.5522.300.05	Special Education	District	Instructional Equipment	Educational Supplies - Inst Equipment	0.00	8000.00	(8,000.00)
0001.3550.005.23.2430.081.99.520.030.5510.300.05	ELL	Williams	General Supplies	Educational Supplies	0.00	700.00	(700.00)
0001.3550.005.23.2358.081.99.520.030.5710.300.06	ELL	Williams	Outside PD for Instructional Staff	In-State Travel	0.00	216.00	(216.00)
0001.3560.005.24.2358.011.99.520.030.5303.300.04	Reading Instruction	Mitchell	Costs for Instructional Staff to Attend PD	P&T Seminars and Training	0.00	363.00	(363.00)
0001.3561.005.21.2430.030.99.520.030.5510.300.05	Math Instruction	Broadmeadow	General Supplies	Educational Supplies	0.00	9500.00	(9,500.00)
0001.3561.005.22.2430.030.99.520.030.5510.300.05	Math Instruction	Broadmeadow	General Supplies	Educational Supplies	0.00	5500.00	(5,500.00)
0001.3561.005.23.2430.030.99.520.030.5510.300.05	Math Instruction	Williams	General Supplies	Educational Supplies	0.00	7662.00	(7,662.00)
0001.3570.005.10.2420.099.99.520.030.5522.300.05	Student 504	District	Instructional Equipment	Educational Supplies - Inst Equipment	0.00	157.00	(157.00)
0001.3580.040.99.3100.099.99.520.030.5780.300.06	K-12 Attendance	Unassigned	Attendance and Parent Liason Services	All Other Expenses	0.00	400.00	(400.00)
0001.3620.005.23.2340.035.99.520.030.5510.300.05	Science Center	Williams	Media Center Directors	Educational Supplies	0.00	2622.00	(2,622.00)
0001.3630.005.26.2451.040.99.520.030.5525.300.05	Educational Tech	High Rock	Instructional Hardware Student Devices	Educational Supplies - Inst Technology	0.00	128410.00	(128,410.00)
0001.3631.005.40.2451.045.99.520.030.5525.300.05	Media Services	NHS	Instructional Hardware Student Devices	Educational Supplies - Inst Technology	0.00	2400.00	(2,400.00)
0001.3631.005.30.2451.045.99.520.030.5525.300.05	Media Services	Pollard	Instructional Hardware Student Devices	Educational Supplies - Inst Technology	0.00	2400.00	(2,400.00)
0001.3651.005.40.2420.045.99.520.030.5522.300.05	Performing Arts	NHS	Instructional Equipment	Educational Supplies - Inst Equipment	0.00	4374.00	(4,374.00)
0001.3652.005.10.2356.099.99.520.030.5780.300.06	FPA	District	Costs for Instructional Staff to Attend PD	All Other Expenses	0.00	272.00	(272.00)
0001.3660.005.40.2455.099.99.520.030.5524.300.04	World Languages	NHS	Instructional Software and Licenses	Educational Supplies - Inst Software	0.00	2828.00	(2,828.00)
0001.3661.005.10.2356.099.99.520.030.5780.300.06	World Language Director	District	Costs for Instructional Staff to Attend PD	All Other Expenses	0.00	209.00	(209.00)
<b>SUBTOTAL PURCHASE OF SERVICE &amp; EXPENSE</b>						<b>260,137.00</b>	<b>#####</b>
<b>GRAND TOTAL</b>					<b>260,137.00</b>	<b>260,137.00</b>	<b>-</b>



# NEEDHAM SCHOOL COMMITTEE

Agenda Item#: \_\_\_\_\_ Date: January 28, 2020 1 of 2

**Item Title:** **Approve School Department Donations**

**Item Description:** The following donations have been made to Needham Public Schools:

	Value:
• Needham Bank, Needham MA, donation to support the NHS Robotics Club	\$150.00
• Earl & Mildred Beane, Hingham MA, donation to support the Mark Robert Beane Scholarship	\$2,500.00
• Marvin Pave, Newton Center MA, donation to support the Mark Robert Beane Scholarship	\$50.00
• Amazon Robotics, North Reading MA, donation to support NHS Robotics Club	\$1,000.00
• Hungry Coyote, Needham MA, donation to support Student Council Bonfire	\$200.00
• Lueder's, Needham MA, donation to support Needham Public Schools	\$200.00
• TripAdvisor, Needham MA, donation to support the Global Travel Fund	\$25,000.00
• Mr. Michael Morrissey, Norfolk District Attorney, Canton, MA awarded donation for work down on Substance Abuse to NHS Salsa Club	\$1,500.00
• Ms. Ruth Skinner, Needham MA, donation to support George Skinner Scholarship	\$3,000.00
• Needham Soccer Club, Needham MA, donation to support NHS Girls Soccer	\$325.00
• Jewish Community Foundation, West Hartford CT, donation to support Eliot Elementary School	\$250.00
• Ms. Evelyn Vu, Needham MA, donation to support the NHS Robotics Club	\$50.00
• Chipolte, Newton MA, donation to support the NHS Helping Island Dogs Club	\$111.05
• Donation to Elizabeth L. Gardner Scholarship from Elizabeth L. Gardner Charitable Trust	\$7,067.50
• Panera Bread, Needham MA, donation to NHS Save A Child's Heart Club	\$15.76
• Proceeds from Spirit Wear Sale to support Student Council	\$727.00
• Proceeds from Sweatshirt Fundraiser to support Class of 2023	\$875.00
• Proceeds from Student Council Bake Sale to support NHS Rocketry Club	\$375.00
• Proceeds from Student Council Bake Sale to support NHS Coffee Cart Club	\$32.00
• Proceeds from Bake sale to support the NHS Science Team	\$87.00
• Proceeds from Water Bottle sale to support the Class of 2022	\$20.00
• Proceeds from a Blanket Fundraiser to support the Class of 2022	\$15.00
• Proceeds from a Bake Sale to support the NHS Mandarin Club	\$67.05
• Proceeds from T-Shirt Sales to support the NHS Robotics Club	\$30.00
• Proceeds from a Bake Sale to support the NHS Writers Corner	\$93.65
• Proceeds from a Candy Sale to support the Class of 2023	\$61.00
• Proceeds from Bonfire collection box to support the student council	\$205.90
• Proceeds from a Bake Sale to support the Class of 2021	\$76.10
• Proceeds from a Bake Sale to support NHS Kids for Wish Club	\$63.00
• Proceeds from a Bake Sale to support Best Buddies	\$215.00
• Coffee Pond Photography, Framingham MA student picture commission to benefit students of Broadmeadow Elementary School	\$2,102.49
• Coffee Pond Photography, Framingham MA student picture commission to benefit students of Mitchell Elementary School	\$1500.00
• Coffee Pond Photography, Framingham MA student picture commission to benefit students of Newman Elementary School	\$2,134.35
• Coffee Pond Photography, Framingham MA student picture commission to benefit students of Sunita Williams Elementary School	\$1500.00
• Lifetouch National School Studios, Eden Prairie MN, student picture commission to benefit students of Pollard Middle School	\$3,944.00
• Lifetouch National School Studios, Eden Prairie MN, student picture commission to benefit students of Eliot Elementary School	\$1,752.80

## NEEDHAM SCHOOL COMMITTEE

Agenda Item#: \_\_\_\_\_

Date: January 28, 2020

2 of 2

	Value:
• Jeff Shapiro, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$200.00
• Timothy Lund, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$200.00
• Jennifer Connors & David Libby, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity Club	\$250.00
• R.C. Meunier, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$100.00
• Hortense Lafaver, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$400.00
• Marianne Cooley, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$150.00
• Jennifer & Matthew Tuttelman, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$250.00
• Joseph & Connie Barr, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$150.00
• Josh & Jennifer Ziskin, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$160.00
• Beverlie & Morris Marks, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$110.00
• Justin & Julie Cordonnier, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$140.00
• Carol Clark & Karen McLeod, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$150.00
• Dorothea Herder & Matthias Eberstadt, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$200.00
• Vivian Hsu, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$250.00
• Marian Slavin, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$180.00
• Jen Ramras, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$40.00
• Lara Coakley, Needham MA, Fall Clean up donation to support NHS Habitat for Humanity	\$60.00

**Issues:** M.G.L. Chapter 44, Section 53A and School Committee policy #DFC/KH authorize the School Committee to accept any grant of gifts or funds given for educational purposes by the federal or state government, charitable foundations, private corporations, PTCs or an individual. M.G.L. Chapter 44, Section 53A further stipulates that any monies received and accepted by the School Committee may be expended without further appropriation.

**Recommendations/Options:** That the School Committee accept with gratitude the aforementioned donations.

**School Committee:** Consent Calendar

Respectfully Submitted,

*Anne Gulati*

Assistant Superintendent for Finance and Operations

# NEEDHAM SCHOOL COMMITTEE

**Agenda Item#:** \_\_\_\_\_ **Date:** January 28, 2020 **Version** 2

**Item Title:** **Approve School Department Donations**

**Item Description:** The following donations have been made to Needham Public Schools:

	Value:
• Treat LLC, Needham MA donation to benefit Amnesty International	\$71.25
• Proceeds from Phone Wallet Sales to benefit Class of 2021	\$25.00
• Proceeds from Bake Sale to benefit NHS Type I Diabetes Club	\$61.00
• Proceeds from Bake Sale to benefit NHS Self Defense for Girls Club	\$76.00
• Proceeds from Phone Wallet Sale to benefit NHS Class of 2021	\$80.00
• Student Council donation to the NHS Rocketry Club	\$141.33
• Proceeds from a Bake Sale to benefit the NHS Birthday Wishes Club	\$87.12
• Proceeds from a Bake Sale to benefit the NHS Soccer without Borders Club	\$61.00
• Proceeds from Asian Night to benefit the NHS Mandarin Club	\$755.00
• Proceeds from Water Bottle Sales to benefit Class of 2022	\$60.00
• Proceeds from Phone Wallet Sales to benefit Class of 2021	\$35.00
• Proceeds from a Bake Sale to benefit NHS Unicef Club	\$76.00
• Proceeds from a fundraiser to benefit NHS Even a Rag Like This Club	\$597.00

**Issues:** M.G.L. Chapter 44, Section 53A and School Committee policy #DFC/KH authoriz the School Committee to accept any grant of gifts or funds given for educational purposes by the federal or state government, charitable foundations, private corporations, PTCs or an individual. M.G.L. Chapter 44, Section 53A further stipulates that any monies received and accepted by the School Committee may be expended without further appropriation.

**Recommendations/Options:** That the School Committee accept with gratitude the aforementioned donations.

**School Committee:** Consent Calendar

Respectfully Submitted,

*Anne Gulati*

Assistant Superintendent for Finance and Operations

## ***NEEDHAM SCHOOL COMMITTEE***

**Agenda Item #:** \_\_\_\_\_

**Date:** January 23, 2020

**Item Title:**                   **Approve Allocation of 2019/20 Student Activity Photo Commissions**

**Description:**           As in the past, the students earn commissions related to photo sales. In FY20, this undesignated income totals \$19,262.96. Based on the recommendation of the school principals, these earnings should be allocated to the following student activity accounts:

SCHOOL	FISCAL YEAR	AMOUNT TO	ALLOCATE TO
BROADMEADOW	FY20	2,102.49	ALL YOG, EQUALLY
ELIOT	FY20	1,752.80	ALL YOG, EQUALLY
HILLSIDE	FY20	1,500.00	ALL YOG, EQUALLY
MITCHELL	FY20	1,500.00	\$600 STUDENT COUNCIL, \$900 YOG 2028
NEWMAN	FY20	2,134.35	STUDENT COUNCIL
HIGH ROCK	FY20	2,507.40	YEARBOOK
POLLARD	FY20	3,944.00	YOG 2024 & 2025, EQUALLY
HIGH SCHOOL	FY20	3,821.92	STUDENT COUNCIL
TOTAL		19,262.96	

**Issues:**                   School Committee Policy #IGDG/DIB specifies that interest income and undesignated earnings of the Student Activity Account will be retained by the fund and will be periodically allocated by the School Committee to purposes as recommended by the school principals. Year-end fund balances will be maintained with the class/club. Upon graduation, the class balance will be distributed according to the class vote. If there is no such vote, the School Committee shall approve the disposition of any residual balances, upon recommendation of the school principal.

M.G.L. Chapter 44, Section 53A and School Committee policy #DFC/KH authorize the School Committee to accept any grant of gifts or funds given for educational purposes by the federal or state government, charitable foundations, private corporations, PTCs or an individual. M.G.L. Chapter 44, Section 53A further stipulates that any monies received and accepted by the School Committee may be expended without further appropriation.

**Recommendation/Options:**   Approval the receipt and the aforementioned plan to allocate 2019/20 the undesignated earnings from student photo sales.

School Committee

Action

Information

Discussion

**Consent Calendar**

Respectfully submitted,

*Anne Gulati*

Anne Gulati

Assistant Superintendent for Finance & Operations



## Needham School Committee

January 28, 2020

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Agenda Item:     **Discussion**

### **Athletic Program Update**

Background Information:

- Mr. Dan Lee will provide an update on the athletic program.

Persons Available for Presentation:

Mr. Dan Lee, Director of Athletics



## **Needham School Committee**

**January 28, 2020**

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### **Agenda Item:     Discussion**

### **Middle School and Needham High School 2020-21 Program of Studies Proposed Changes**

#### **Background Information:**

- Each year, the School Committee reviews, discusses, and approves the middle school and high school's course of studies.
- Mr. Sicotte, Ms. Bibbo and Ms. Downey will review proposed changes for 2020-2021.
- 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 program of studies at its next meeting.

#### **Persons Available for Presentation:**

Ms. Jessica Downey, High Rock School Principal  
Ms. Tamatha Bibbo, Pollard Middle School Principal  
Mr. Aaron Sicotte, Principal of Needham High School

# Needham Public Schools ~ Middle Level

## *High Rock & Pollard*

### MEMORANDUM

TO: Daniel Gutekanst

FROM: Tamatha Bibbo & Jessica Downey

DATE: January 14, 2020

RE: Program of Studies 2020-2021

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

There are a number of departments that have highlighted areas of change: World Language, Math, Science & Engineering, and Social Studies.

The World Language changes reflect the middle schools' adjustment to provide 7<sup>th</sup> grade entry point options: French and Mandarin. It also includes the addition of Spanish 7a for students who have not previously studied Spanish.

The Math description has added information pertaining to Math Support/Intervention programming that exists in grades 6, 7 & 8.

There is an additional description for the courses offered in Engineering Design at Pollard titled; *Engineering Elective in Urban Planning*.

Finally the course descriptions for the Social Studies department have all been updated to reflect the new Social Studies Standards and the resulting shifts in curriculum at each grade level to align with the new standards.

Separate from the course descriptions, you will note that information regarding the Grade 8 trip to Washington D.C. has been removed. After a long and thoughtful process, it has been determined that this trip is no longer sustainable for the number of students in Needham. Alternative civic learning opportunities will be sought for the future.

There are no other substantial changes to the Program of Studies at this time.

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

*Tamatha Bibbo*  
Principal Pollard Middle School  
Grade 7 & 8

NEEDHAM PUBLIC SCHOOLS  
Needham, Massachusetts

PROGRAM OF STUDIES

GRADES 6 – 8

2020 - 2021

Dr. Dan Gutekanst  
Superintendent of Schools

Dr. Terry Duggan  
Director of Student Learning



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## MIDDLE SCHOOL STATEMENT OF PURPOSE

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We dedicate ourselves to cultivating academic excellence,  
civic responsibility and the personal growth of  
each member of our community.

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### ***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 are 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 impart 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 and critical thinkers.
- Confident and open-minded risk takers.
- Responsible and thoughtful decision-makers.
- Articulate and reflective communicators.
- Collaborative and socially conscious contributors to the community.

## Middle School 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.

Currently both High Rock and Pollard have clusters comprised of teachers who represent the following disciplines: English language arts, mathematics, science, and social studies. In addition to the study in these subjects, students will participate "essential" courses. Students participate in two essential courses per day that occur on a rotating basis. These essential courses fall under the departments of fine and performing arts, technology, library and media, world language, and wellness. A typical middle level daily course experience for a Needham student is as follows:

Advisory
English
Math
Science
Social Studies
Essentials 1
Essentials 2

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.

## OVERVIEW OF THE PROGRAM

### Grades 6 through 8

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

<b>Grade 6 Essentials</b>	<b>Grade 7 Essentials</b>	<b>Grade 8 Essentials</b>
Physical Education	Physical Education	Physical Education
Health	Health	Health
World Language	World Language	World Language
Visual Art	Visual Art	Visual Art
Computer Technology	Computer Technology	Engineering Design
Literacy for Learning	Engineering Design	
Performing Arts Option	Performing Arts Option <b>or</b> Essential Rotation Grade 7	Performing Arts Option <b>or</b> Essential 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

### Essentials Rotations (for students not choosing a Performing Arts Option)

<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>
	Music Explorations 7 Ceramics/Sculpture 7 Experiential Education 7	Ceramics/Sculpture 8 Chinese Culture 8 Global Art 8 2D Design 8 Experiential Education 8 Theater Musical Arts 8

## **MIDDLE SCHOOL PROGRAM OVERVIEW**

The middle school program has been developed with the understanding that the young adolescent is at a critical phase in their 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.

## **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 a core 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; 1. Creating, 2. Performing, Presenting, and Producing, 3. Responding, and 4. Connecting, as outlined by the National Standards for the Arts. Instruction in the Fine and Performing Arts further develops a child's ability to communicate, think creatively, problem solve, and collaborate. Social Emotional and Twenty-First Century Skills are also inherently taught in and through all of the arts courses.

### **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.

## **Co-Curricular Select Performing Groups**

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, implementation of State mandated screenings and referrals, anticipatory guidance, care coordination, development of individualized healthcare/medical 504 plans and promotion of disease prevention.

## **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).

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.

### **Spanish 6: High Rock School**

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).

### **Pollard Middle School: Seventh Grade**

Students will have the opportunity to: a) continue their study of Spanish; b) begin Spanish (select Spanish 7a); c) 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.

### **Pollard Middle School: Eighth Grade**

Students entering eighth grade at Pollard Middle School will continue to study the same language studied in seventh grade. The Pollard world language experience is a two year commitment.

## **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.

Students begin their study of mathematics in Grade 6 in an unlevleed classroom. In this transitional year, all students review and extend the mathematical concepts introduced in Grades K-5. Students demonstrate the necessary mastery of skills and knowledge that are essential for success in the subsequent years at the middle school. Mathematics 6 begins the transition from concrete learning to the learning of abstract concepts.



Upon entering Grade 7, the middle school mathematics sequence in Needham has two paths, both aligned with the MA Common Core Standards and leading to a college preparatory sequence at the high school. Students will enroll in Math 7 Accelerated or Math 7. Students who demonstrate beyond grade level proficiency in Mathematics 6 will enroll in Accelerated in Grade 7. Math 7 further develops the foundation of mathematical knowledge needed for success in later math courses.

It is important to build a strong foundation in mathematics at a pace that enables each student to develop mathematical understanding and ability appropriately to apply math concepts and skills. The middle school Accelerated Mathematics curriculum provides academic rigor beyond grade-level expectations. It is designed to meet the needs of the qualified student, who will study intensified, compacted content. **In order to make a collaborative recommendation for the appropriate placement for each student in the spring**, teams of middle school math teachers examine student performance in conjunction with data from several assessments that are taken by all students.

The Pollard math programming is designed to be a two-year sequence. On a case-by-case basis, there is limited opportunity for movement between levels. It is expected that students from Math 7 Accelerated will continue with Math 8 Accelerated, and students who study Math 7 will continue with Math 8. Math 7 students who have exceeded beyond grade level proficiency and Math 7 Accelerated students who have not met course expectations may be recommended for movement. Recommendations for placement start in late winter/ early spring of the previous year.

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 **all** with the content and skill set for viewing their world and communicating solutions as they make informed decisions about their environment, 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 **referenced** **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 new 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 **it's** unique way, each course contributes to each student's ongoing development of skills, knowledge, and attitudes needed to participate in an active, healthy lifestyle. The 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 environmental). 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.

## **GRADE 8 DC TRIP**

**Students in grade 8 attend a whole grade trip to Washington, D.C. for four school days in the fall. The Grade 8 Washington, D.C. trip will provide all students with meaningful opportunities to:**

- **Enhance learning in all subject areas;**

- Develop social, emotional, wellness, and citizenship skills;
- Live the Pollard core values: act with compassion, integrity, and inclusivity; strive for personal growth; be curious, confident, and independent learners; and
- Foster relationships with peers and teachers through team-building exercises

The trip information, *including dates and cost*, will be provided to families as soon as they become available (typically 6-8 months in advance). The trip is directly connected to the grade 8 curriculum and includes visits to:

- Tour of the monuments
- Holocaust Memorial Museum
- Newseum
- Mt. Vernon (Washington's Plantation)
- The National Mall with options of different Smithsonian Museums
- The Museum of African American History
- Arlington National Cemetery with potential for wreath laying ceremony
- Community Service Learning component

## Pollard Middle School: Community Service Learning Project

### Overview:

Students at Pollard Middle School participate in a Community Service Learning (CSL) Program. The program is implemented over the course of the seventh and eighth 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.”

### Goals of The CSL Project:

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.

### Scope of The Project:

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**

In **Grade 6 English Language Arts**, students are immersed in the study of literature, composition, vocabulary, and grammar. The goal is to help students become careful readers and thoughtful, expressive writers.

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, and *Charles*, by Shirley Jackson. Over the course of the year, students read young adult novels such as *The Breadwinner*, as a whole-class and choose from a curated list of novels to read in small-group settings. 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 **terms** composition **work**, students write personal narratives, informational articles, critical and persuasive essays, book reviews, reflections and journal entries, and analytical responses to **texts** they have read. Students apply their knowledge of short story elements by constructing an original plot line and writing a well-developed story scene. They begin by reviewing the steps in

the writing process with an emphasis on effective narrative techniques (dialogue, flashback, interesting lead, etc.), thoughtful revision of ideas and word choice, and careful proofreading/editing to ensure correct punctuation and capitalization. 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, each week students acquire new vocabulary, practice important grammatical constructs, and learn how to speak, argue, and listen effectively.

### ***LITERACY FOR LEARNING***

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 engaging course, students study a topic (such as sugar) that can be examined from many perspectives through a variety of texts. 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. scientific articles and journals, news stories, **social science and history** books and articles, poetry, 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 collaborative conversations, self-assessment, written responses, and project-based assessments.

In **Grade 7 English Language Arts**, students study literature, composition, vocabulary, and grammar. The goal is to help students become careful, inferential readers, critical thinkers, and thoughtful, expressive writers.

At the beginning of the year, students review useful ‘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 style are explored, 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 prejudice, 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.

**In Grade 8 English Language Arts**, students study literature, composition, vocabulary, and grammar. The goal is to help students become careful, inferential readers, critical thinkers, and thoughtful, expressive writers.

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 Poe Jackson, Poe, Soto, Saki Connell, Bradbury, O’Henry LeGuin, and others. 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. This exploration of the short story form culminates in a two-day assessment in which students read a sophisticated story they have not previously encountered, interpret passages, and write a lengthy



~~critique of its theme—all without help.~~ As a further assessment, students *apply* everything they have learned about short stories by developing their own original plot line and composing a well-developed scene.

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 *The Giver* by Lois Lowry, *Fahrenheit 451* by Ray Bradbury, “*A Midsummer Night’s Dream*,” 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* and *multiculturalism*. 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, feature articles, speeches, and analytical responses to their reading. Learning how to write a sophisticated, well-structured essay is a primary goal in preparation for high school. 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**

### **VISUAL ARTS**

#### **VISUAL ART 6**

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.

### **VISUAL ART 7**

This is the required art class for all seventh graders regardless of chosen track. 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).

### **VISUAL ART 8**

This is the required art class for all eighth graders regardless of chosen track. 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.

### **CERAMICS/SCULPTURE 7**

This is the visual arts trimester class that seventh graders take as 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. 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.

### **CERAMICS/SCULPTURE 8**

This art class is part of the Fine and Performing Arts 8 rotation. Students in this course will continue the exploration of the 3D art processes and materials 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.

### **GLOBAL ARTS 8**

This art class is part of the Fine and Performing Arts 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.

### **2D DESIGN 8**

This art class is part of the Fine and Performing Arts 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 marker.

## **PERFORMING ARTS**

### **CHORUS and GENERAL MUSIC 6**

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. **Advanced singers are encouraged to audition for the Middle School Select Choir.** 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.

### **CAMBIATA CHORUS 7**

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.

### **TREBLE CHORUS 7**

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.

### **CAMBIATA CHORUS 8**

This course 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.

### **TREBLE CHORUS 8**

This course is appropriate for all eighth graders whose singing voice corresponds 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.

### **BEGINNING BAND 6**

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 **2-5**. 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.

### **CONCERT BAND 6**

This course is open to sixth grade students who 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 **2-5**. Participation in public concert performances are a required component to this ensemble.

### **CONCERT BAND 7**

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 2-5. Participation in public concert performances are a required component to this ensemble.

### **CONCERT BAND 8**

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 2-5. Participation in public concert performances are a required component to this ensemble.

### **STRING ENSEMBLE 6**

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 2-5. Participation in public concert performances are a required component to this ensemble.

### **STRING ENSEMBLE 7**

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 2-5. Participation in public concert performances are a required component to this ensemble.

### **STRING ENSEMBLE 8**

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 2-5. Participation in public concert performances are a required component to this ensemble.

### **MUSIC EXPLORATIONS 7: Arts Rotation Course**

This is the music trimester class that is part of the Fine and Performing Arts 7 rotation. Students who are not enrolled in a performing ensemble (band, orchestra, chorus) are enrolled in the Arts Rotation. In this class, students will explore how music interacts with and changes according to cultures, both their own and others. A variety of genres including jazz, popular, rock, and world musics are studied. Students will compose and perform music using technology and instrument. Through this, students will continue to develop their command and understanding of the fundamentals of music: rhythm, melody, harmony, and timbre. This course continues the development of skills outlined in the MA State Music Frameworks 3-8.

### **THEATER MUSICAL ARTS 8: Arts Rotation Course**

This theater/music trimester class is part of the Fine and Performing Arts 8 rotation. Students who are not enrolled in a performing ensemble (band, orchestra, chorus) are enrolled in the Arts Rotation. In this integrated performing arts class students will expand upon and develop their musical and theatrical skills by participating in a variety of roles used in professional and amateur productions. These roles include that of actor, singer, choreographer, and director, among others. Class activities may include improvisations, re-enactments of classic theatrical/musical scenes, and development of original monologues and scenes to given prompts. Script reading, analysis, and active performance will be constants throughout this class. This course will continue the development of skills outlined in both the MA State Theater and Music Frameworks 1-5.

## **Co-Curricular Fee Based Select Performing Groups**

### **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 ~~concert bands, or one of the other daytime-curricular~~ performing ensembles. ~~if the student is skilled and dedicated enough to manage both ensembles—~~. Select Choir rehearses two afternoons per week at Pollard ~~and~~ members need to commit to ~~a minimum of two afternoons to 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.

### **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.

#### **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.

#### **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.

#### **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.

## **WORLD LANGUAGES**

### **Spanish 7a**

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 begins 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**

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 8**

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 (speaking and writing) of short phrases 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**

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

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

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 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 (2019)** Mandarin 8 is intended for students who wish to begin their study of Mandarin in the middle school and anticipate continuing with Mandarin at Needham High School—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. Mandarin 8 offers an introduction to the pronunciation and intonation of Mandarin as well as the development of novice level speaking, listening, reading and writing skills. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. Thematic units of study include: Greetings, numbers, the calendar, age, polite expressions, classroom objects, 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 Elective)



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.

## **MATHEMATICS**

### ***MATH 6***

The Massachusetts Standards for Mathematical Content frame the major mathematical work in this course. The purpose of the MATH 6 course is to insure 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. 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. At the end of the school year, after evaluating a student's performance, each child is recommended for either ***Math 7 Accelerated or Math 7.***

### **Math Support 6, 7, 8**

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.

### ***MATH 7***

The Massachusetts Standards for Mathematical Content 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.

The MATH 7 course is designed to develop basic arithmetic and pre-algebraic skills and concepts. Students placed in this level 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. 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 7 ACCELERATED***

The Massachusetts Standards for Mathematical Content frame the major mathematical work of this course. It is aligned with the recommended compacted pathway for grade 7. The Math 7 Accelerated is a fast paced course incorporating all of the topics taught in the Math 7 course in addition to approximately two-thirds of the topics included in Math 8 course. Students placed in this level have extensive math background knowledge and have met strict performance-based placement criteria. This small cohort of students thrives in a highly challenging learning environment. Concepts and skills are reinforced using rational numbers. Emphasis is placed on an introduction to algebraic language, concepts and skills. The course provides experiences in logic and deductive reasoning, writing algebraic expressions and equations, solving linear equations and inequalities. Students work extensively with rational expressions, linear equations and systems of open sentences, geometry and probability. 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 and technological connections are stressed throughout the course.

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***

The Massachusetts Standards for Mathematical Content 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.

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 textbook 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 8 ACCELERATED***

The Massachusetts Standards for Mathematical Content frame the major mathematical work of this course. Math 8 Accelerated is a fast-paced, rigorous course covering all of the High School level Model Algebra 1 Common Core Standards while incorporating the remaining units of the grade 8 curriculum standards not covered in Math 7 Accelerated. The small cohort of students placed in this level have extensive math background knowledge and have met strict performance-based placement criteria. They thrive in a highly challenging learning environment.

This course focuses on linear, quadratic, and exponential functions, including sequences. Students explore absolute value, step, and piecewise-defined functions while translating between representations and studying the limitations of various representations. Students extend their understanding of integer exponents to consider exponential functions. They interpret arithmetic and geometric sequences. Regression techniques will be used to describe and approximate linear relationships between quantities. Problem solving, communicating mathematical ideas and technological connections are stressed throughout the course. 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.

## **MEDIA & TECHNOLOGY**

### ***DIGITAL TECHNOLOGY 6***

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***

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 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**

The newly revised state science, technology and engineering (STE) standards, adopted in January 2016, provide guidance and flexibility during a district's development of new methods, content and skills. We have redesigned our curriculum accordingly, and are in the process of implementing the new standards with our students.

### ***SCIENCE 6***

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, waves and communication, force interactions and motion in our universe, cellular and body systems, fossils as evidence of past events, and aspect of engineering design.

Laboratory activities are an integral part of the course. Considerable 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***

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 current event 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***

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, 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***

The course is a hands-on course that applies engineering and technology principles to practical engineering and technology problems. 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 provide students with opportunities to simulate 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 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.

***Engineering Elective in Urban Planning (Pollard)*** Today, about 55% of Earth's population live in urban areas, and that number is expected to grow markedly in the coming decades. This course allows students to apply principles of engineering & technology, while understanding the considerations of urban planning and development. We will look at real and imagined case studies to learn about development and design of urban areas, as well as the modes of transportation, communication and material distributions that allow urban areas to thrive. Then, students will examine and create solutions that ensure an optimal quality of life for occupants of Earth's growing urban regions.

## **SOCIAL STUDIES**

### ***SOCIAL STUDIES 6***

This course begins with a study of archaeology and traces human development from prehistoric times through the ancient time Middle East, ancient Egypt, the Greeks, and the Romans. Grade 6 Social Studies introduces students to the cultural achievements of ancient and classical civilizations worldwide. 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***

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***

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 is comprised of 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.

## **GRADE 6**

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.

### **PHYSICAL EDUCATION 6**

The physical education portion of this experience 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 fitness concepts 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.

### **HEALTH EDUCATION 6**

The health education portion of this experience 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**

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**

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 in to 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**

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**

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**

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**

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.



# NEEDHAM HIGH SCHOOL

A CARING COMMUNITY  
STRIVING FOR PERSONAL GROWTH AND  
ACADEMIC EXCELLENCE

*Aaron Sicotte*  
Principal

*Mary Kay Alessi*  
*Alison Coubrough-Argentieri*  
*Keith Ford*  
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 2020-21  
DATE: 22 January 2020

I am pleased to present the Needham High School Program of Studies for 2020-2021. 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. Alison will join me at the presentation of the Program of Studies to the School Committee.

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 first addition I want to highlight here is our new 9<sup>th</sup> Grade Interdisciplinary Program, a program designed to combine some of the strongest elements of both a middle level and a high school level. In the program, four core subject teachers will teach connected units that merge learning across traditional department boundaries and make it meaningful, collaborative, and project-based for the students. It is an exciting new experience at NHS and one that brings the written beliefs of the Portrait of a Needham Graduate to life.

In addition to the new program, we are also offering new courses at NHS. Our Fine and Performing Arts Department will offer two new courses to meet both our students' interest and district priorities: Comics and Sequential Art, and A Glimpse Through Time: Visual Language and Culture. To support our math students who have reached Advanced Placement Calculus in their junior year, we will now offer a Multivariable Calculus course for students ready for the advanced coursework in their senior year. Both departments will also be renaming a few courses to better clarify their focus and alignment with other course sequences. Students will have an opportunity to take an Internship in Special Education, which includes training with special educators, peer modeling, tutoring, socialization and friendship development. Our Media Department will be introducing the second course in a two year sequence following AP Capstone, which is AP Research. Finally, our World Language Department is providing French 5 and Spanish 5 for students looking to continue their language studies, but not in an AP class.

I am excited to present this Program of Studies for the 2020-21 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.



# 2020-2021 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:	Tom Denton, Director of Guidance
Address:	609 Webster Street, Needham, MA 02492
Telephone No:	781-455-0800 x 22130
TTY:	781-455-0434
FAX:	781-449-5111

### **SCHOOL COMMITTEE**

Michael Greis, *Chair*  
Andrea Longo Carter, Vice Chair  
Connie Barr  
Heidi Black  
Susan B. Neckes  
Aaron Pressman  
Matthew Spengler

### **ADMINISTRATIVE STAFF**

Dr. Daniel Gutekanst, Superintendent  
Dr. Alexandra McNeil, Assistant Superintendent for Human Resources  
Ms. Mary Lammi, Assistant Superintendent Student Support Services  
Dr. Terry Duggan, Assistant Superintendent for Student Learning  
Ms. Anne Gulati, Assistant Superintendent for Finance and Operations

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## INTRODUCTION

I am pleased to present to you the Needham High School Program of Studies for the 2020-2021 academic year. The Program of Studies provides essential information including course offerings, descriptions, and diploma requirements for all Needham High students. The booklet is designed to guide the course selection process and should be consulted whenever academic information is needed.

The program is reviewed each year in late fall. The high school administration forwards recommendations for changes to the Needham School Committee, which has the final approval for the Program of Studies. Our *Core Values, Beliefs and Learning Expectations* guide the development of our program. I urge you to become familiar with the information. It includes both a philosophy and a list of expectations explaining our goals. We believe the breadth and depth of our course offerings allow these goals to be reached. Questions regarding the Program of Studies should be directed to the program director/department chair or to me.

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 due to increased enrollment for the 2020-2021 academic year, 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/chairpersons 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. As in the past, 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 2020-2021 school year.

Aaron Sicotte  
Principal



# NEEDHAM HIGH SCHOOL

## Core Values, Beliefs, and Learning Expectations

### **Core Values Statement:**

#### **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 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.

**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).**

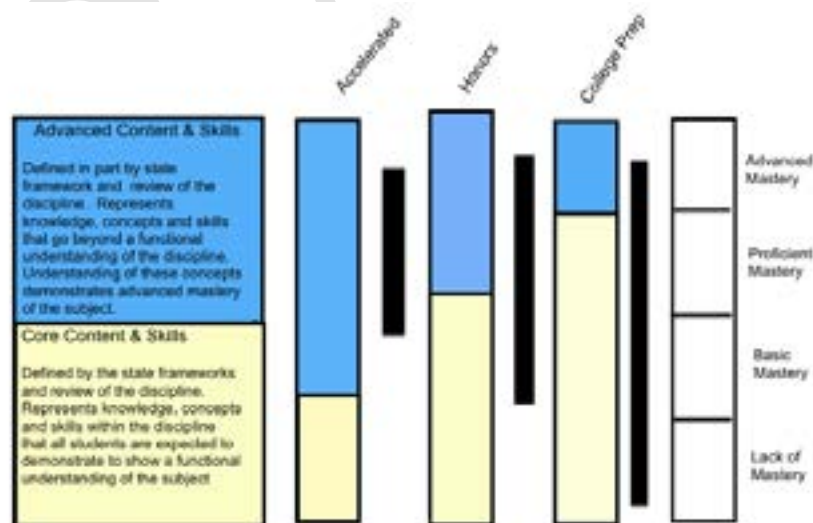
## Course Level Descriptions

Needham High School offers courses at the College Prep, Honors, and Accelerated levels. Prior to course selection each year, teachers will recommend students for courses at these levels based upon the descriptions provided below. All courses are rigorous, address the Massachusetts State Frameworks, and are designed to appropriately challenge all students. 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** - *Students who are recommended for courses at this level will build on a strong foundation of content and skills. Courses are rigorous, and require consistent effort and work for students to achieve at the highest level. Class time will be spent on mastery of core content and skills with some exposure to advanced content and skills. Students are expected to synthesize and analyze content with active teacher-directed support. Outside coursework is designed to reinforce the content and skills learned in class. Students will develop the organization needed to balance both short-term and long-term assignments throughout these courses.*

**Honors** - *Students who are recommended for courses at this level have strong academic skills. These courses are fast paced, rigorous, and require consistent effort and work for students to achieve at the highest level. In addition to developing core content and skills, class time will be spent working on advanced content and skills. Students are expected to synthesize and analyze content with teacher-directed support. Outside coursework is designed to advance the curriculum and provide skill development. Students should possess the strong organizational skills needed to balance both short-term and long-term assignments throughout the course.*

**Accelerated** - *Students who are recommended for courses at this level will build upon a strong foundation of content and skills. These classes will spend a significant amount of time working with advanced concepts and skills at an accelerated pace. Students are expected to synthesize and analyze content independently with limited teacher-directed support. Outside coursework is designed to advance the curriculum and provide skill development. Students will need to balance both short-term and long-term assignments throughout the course.*



The black bars represent areas where teacher-directed support is provided. For example, in the Accelerated level, students are expected to develop understanding of the core content largely independently, with little active teacher-directed support and monitoring. In the Honors level, active teacher-directed support and monitoring is provided for all but the basic components of the core content (many of which will have been learned previously by the student). In the College Prep level, active teacher-directed support and monitoring will be provided for all aspects of the core and advanced curriculum.

# **Course Change Procedures and 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.

## **Drop/Add**

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.

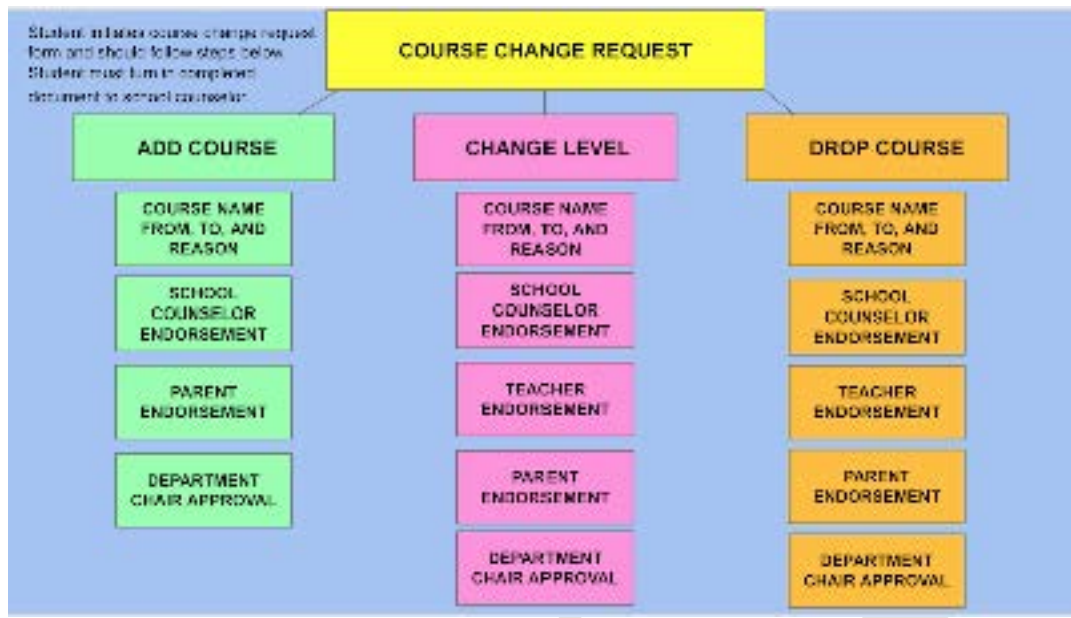
A student who wishes to add a course must make that request by the end of the first two instructional cycles of the class. No student will be allowed to enter a new course after that time unless there are extenuating circumstances.

## **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.
  - 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. Course descriptions are written by Department Heads/ Chairpersons and are approved by the Needham School Committee.

### **Course Numbers**

The first digit defines 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/Credits**

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

★ Star indicates new course offering for 2020-2021

# INTERDISCIPLINARY COURSES

Needham High School offers several interdisciplinary courses and opportunities for the 2020-2021 school year. These experiences are developed and/or taught collaboratively and integrate knowledge and skills from two or more disciplines. The intent of each course/offering is to help students develop 21st Century skills, such as: problem solving, collaboration, communication, and self-direction.

**African American Studies and Contemporary Issues Hon (4462):** 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.

★ **AP Capstone Research (8412):** AP Capstone 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 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. Prerequisites: successful completion of AP Seminar.

**AP Capstone Seminar (8411):** 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. Prerequisites: teacher recommendation, preference given to sophomores and juniors.

**AP Computer Science (2481):** 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 at home when taking this course. Priority will be given to students in their junior and senior year. (Prerequisites: A- or better in Introduction to Computer Science or a B or better in Pre-Calculus and Department Chair approval, or concurrent enrollment in Pre-Calculus and Department Chair approval)

**AP Computer Science Principles (2488):** 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, often with a socially useful purpose, and research and report on the benefits and potential drawbacks of a new technological advance. (Prerequisites: B or better in Introduction to Computer Science and Math 9/Algebra 2 or Department Chair approval. Please note: priority to enroll in this course will be given to juniors and seniors)

**Be the Change (2 credits), Full Year (9800):** This course will focus on preparing students to be future leaders, open to students in grades 10, 11, & 12. Students will learn skills to lead, organize, and manage groups such as grade 9 orientation, clubs, athletic teams, and/or service groups. Students will focus on gaining multiple skills that can be translated into classrooms, future studies, and the workplace and will complete the class with the skills and knowledge-base to motivate and organize their peers. Course topics will include: substance abuse prevention; resiliency skills; negotiations and peer mediation skills; leadership skills to address teen issues; and how to create and facilitate discussion groups. Students will create a capstone proposal and presentation, exemplifying their new skills and strategies, that they will present to their peers, while changing their school and/or community. Guest speakers from the Needham community will also be involved in the course over the year. Be the Change is a course offered before school hours for 1-hour per week with an online component. (Prerequisite: Recommendation by an Assistant Principal)

**Computer Aided Design and Manufacturing (2467)** 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. (Prerequisite: B or better in Math 9 or Algebra 2 and a B or better in Physics)



**Computer Programming Fundamentals (2476)** 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. (Prerequisite: 2482: Intro to Computer Science or Mathematics Department Chair approval)

**Digital Game History & Design (8498):** 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 creating a choose your own adventure computer 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.

**Digital Portfolio (7156)** This semester course is designed to allow advanced art students who have successfully completed Photo 3, or Graphic Design, or Commercial Production, 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. (prereqs: Photo 3, Graphic Design 2, Commercial Production, or permission of the instructor)

**Engineering Design 101 (2466)** Engineering Design 101 is a semester course. This course is for students who are thinking about pursuing career in Engineering or related area. 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 the engineering profession. This course will proceed as a project based learning class involving several different engineering disciplines including aerospace, civil, electrical, environmental, 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. (Prerequisite: Successful completion of Physics and Algebra 2)

**Environmental Science:** 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 initiative 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. 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 Prep Level (3533):** Comfortable with algebraic manipulations

**History, Politics, and Popular Music (4214)** 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! For 11th and 12th grade students only.

**Integrated Senior Studies Acc: The Greater Boston Project (0491):** 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.

★ **Internship in Special Education (9896)** This 2 credit volunteer program is available for students in grades 10 to 12. 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.

**Introduction to Computer Science (2482):** 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 field computer science 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 capstone project. (Prerequisite: B- or better in Math 8)math

**Junior/Senior STEM Capstone (2490) or Junior/Senior STEM Capstone 2 credit (2496)** Junior/Senior STEM Capstone is 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.

**Peer Tutoring (1 credit), Semester (1260):** 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.

**Personal Finance (2615):** 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 to enroll in this one-semester course will be given to seniors.

**Product Design and Development (7258):** 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. Pre-requisites: This course is primarily for students in grades 10-12, who will benefit from having taken Digital Art & Animation; Commercial Design & Production 1; or Engineering Design 101 courses offered at NHS.

**Courageous Conversations on Race (9897):** 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.

**Robotics (2489):** 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.

(2482 or equivalent). (Prerequisite: B or better in Math 9 or Algebra 2 and Physics, or instructor permission)

**Storytelling with Numbers (8595):** Storytelling with Numbers teaches students the fundamentals of data visualization, spreadsheets, and how to communicate effectively with data. Students will learn how to use data to create an engaging, informative, compelling story. They will create their own surveys, explore survey bias, and analyze the resulting data. Students will be able to evaluate graphic representations of data and identify the purpose behind the graphic. Utilizing these skills, the class culminates in a final project with the presentation of data in what the student deems the most effective method. Topics Covered include, basics of spreadsheets, analyzing data and graphs, designing and analyzing surveys, importance of context, models of visual data, basics of visual design, using data to tell a story.

**TEC Internship (9899):** 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).

**Technology Leaders (8455):** This course will give students a background in technical support at Needham High School. Students will respond to real problems and develop solutions in the following areas of technology: computer software, hardware, television production, audiovisual hardware and software, website design, and more. Technology Leaders will assist staff and students by addressing individual technology-related problems and challenges. When not assisting staff or students at the help desk, participating students will explore independent technology-related learning. Because of the nature of the experience it will be limited to two students per period. This opportunity is available for the full year or a semester only. Prior to course selection, a technology specialist must interview interested students.

**Television Production (8486):** 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. (Prerequisite: Television Communication I)

**Work Study - full year, 4 credits (2 Math credits) (9898)** The Work Study class is designed to provide the skills needed to be successful in a work environment, as well as, provide the opportunity to earn credit for valuable work experience under school supervision. The class will meet outside of the regular school day to provide more flexibility for the students. The in-class time will focus on the skills, interactions, and knowledge needed to be successful in any job setting. Students will also acquire and apply practical math skills in order to gain a deeper understanding of how a business manages its operation, as well as, understand how to manage their own finances. Students will be required to have a job prior to enrolling and will be expected to work a minimum of 15 hours per week during the year. The class instructors 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 is limited and must be approved by the student's parent, counselor and assistant principal. The class will be graded on a Pass/Fail scale, based on fulfillment of the classroom requirements and satisfactory performance on the job.

### 9th Grade Interdisciplinary Program

★ **Biology 9IP (3022):** 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.

★ **English 9IP (0112):** 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.

★ **Mathematics 9IP (2042):** 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 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.

★ **World History 9IP (4112):** 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.

# ENGLISH

Num	Length	Credit	Course
0101	F	4	English 9 Acc
0102	F	4	English 9 Hon
0112	F	4	English 9IP
0103	F	4	English 9 CP
0201	F	4	English 10 Acc
0202	F	4	English 10 Hon
0203	F	4	English 10 CP
0311	F	4	AP Language & Composition
0631	F	4	Braver Newer World Acc

Num	Length	Credit	Course
0632	F	4	Braver Newer World Hon
0301	F	4	English 11 Acc
0302	F	4	English 11 Hon
0303	F	4	English 11 CP
0421	F	4	AP Literature & Composition
0431	F	4	English 12 Acc
0432	F	4	English 12 Hon
0433	F	4	English 12 CP
0491	F	8	Greater Boston Project Acc

The following elective courses are available to all students in addition to the required full year course:

0510	S	2	Public Speaking
0520	S	2	Experimental Writing
0530	S	2	Film Studies
0547	F	4	Journalism 1 - <i>The Hilltopper</i>
0548	S	2	Journalism 1 - <i>The Hilltopper</i> 2 credit

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.

## Ninth Grade English

**English 9 (0101; 0102; 0103):** 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, Memior, and Drama. 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. All ninth grade students will complete a comprehensive research assignment, the Grade 9 Research Paper, as a course completion requirement. 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.

★ **English 9IP (0112):** 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.

## Tenth Grade English

**English 10 (0201; 0202; 0203):** 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, as a course completion requirement. 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.

## Eleventh Grade English

**AP Language & Composition (0311):** 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.

**English 11 (0301; 0302; 0303):** 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 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, as a course requirement. 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.

## Twelfth Grade English Courses

**AP Literature & Composition (0421):** 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):** 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, as a course requirement. 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*. **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.**

**Braver Newer World (0631, 0632)** 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.

**Integrated Senior Studies Acc: The Greater Boston Project Acc (0491):** 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 a 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.**

## Semester English Electives

**Experimental Writing (0520):** Experimental writing is an elective course designed to enable students to approach writing with a sense of 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.

**Public Speaking (0510):** 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.

**Film Studies (0530):** 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.

**Journalism 1 - *The Hilltopper* (0547) or Journalism 1 - *The Hilltopper* 2 credit (0548):** 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.

# **ENGLISH LANGUAGE LEARNERS**

The English Learner (EL) Program provides ELs with systematic, explicit, and sustained English language development and meaningful participation in the Needham's general educational program. English Language Development (ELD) happens in SEI classrooms as ELs learn grade-level content along with their proficient English-speaking peers.

English language development also happens in ESL classes, when ELs are grouped together and licensed ESL 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 ESL instruction is to advance English language development and to promote academic achievement. ESL instruction includes social and academic language in all four domains including listening, speaking, reading, and writing.

Effective ESL instruction supports student success in school, including improvement of ACCESS scores and acceleration of academic achievement. Effective ESL instruction also supports long term goals such as college and career readiness.

## **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 3 Portfolio	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
7120	S	2	Crafts 1	7245	S	2	Design & Production 1
7128	S	2	Drawing & Painting 1	7235	S	2	Design & Production 2
7136	S	2	Drawing & Painting 2	7237	S	2	Advanced Design & Production 3
7258	S	2	Product Design & Development	7246	S	2	Motion Design
7236	S	2	★ Comics and Sequential Art	7255	S	2	★ A Glimpse Through Time: Visual Language and Culture

The Art curriculum consists of tracks: 1.) Full Year Art 1 through Art 4 sequence and semester long art courses ranging in focus and discipline. 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. 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.

## Full Year Art Courses

Designed as a sequential curriculum and increasingly challenging curriculum, students enrolled in Art 1 through Art 4 explore the Fine Arts and create a portfolio of work which can be used to enhance the college application process, apply for College Board AP Credit (in Art 4), or to pursue careers in art and design. These courses develop a student's ability to communicate visually, an understanding of the arts historically, development of design vocabulary, creativity and problem solving skills. Homework is assigned regularly, and students become familiar with various art media, techniques, tools, and concepts to gain a broad awareness of the visual arts. Each full year art course earns four credits.

**Art 1 (7010):** This full year course is open to ANYONE, and is perfect for those who have an interest in visual art. It is also the foundation course for many of the upper level art courses. 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 contexts in art. Minimal homework is assigned on a continuing basis. Prerequisite: None: Students who pass this course may sign up for Art 2, and Drawing and Painting 2.

**Art 2 Hon (7022):** Art 2 Honors 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. Successful completion of Art 2 Honors will result in a portfolio of works that may be included as a portion of a student's "breadth section" portfolio in Art 3 Advanced Placement or Accelerated. (Prerequisite: Art 1 or both Drawing & Painting 1 and 2, or permission of the department with a portfolio review)

**Art 3 Acc (7041):** Expanding 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. (Prerequisite: Art 2)

**AP Art 3 Portfolio (7031):** This course will enable students to produce a large portfolio of artwork to apply for AP college credit and/or college/art school admission. 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. This advanced placement course carries a heavy homework obligation. It challenges students to experiment with many materials, techniques and ideas. Critical analysis and assessment are important components of the course. This analysis will aid students in creating quality works demonstrating both breadth and thematic concentration. The course is open to juniors and seniors. (Prerequisite: Art 2 and teacher recommendation)

**Art 4 Senior Studio Acc (7141):** This is a challenging 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. (Prerequisite: Art 3 Accelerated or AP Art 3 Portfolio, or departmental permission)

## 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.

**Introduction to Ceramics 1 (7116):** 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.



**Intermediate Ceramics 2 (7118):** 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. (Prerequisite: Introduction to Ceramics)

**Advanced Ceramics 3 (7109):** 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. (Prerequisite: Intermediate Ceramics)

**Design & Production 1 (7245):** 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.

**Design & Production 2 (7235):** 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. (Prerequisite: Commercial Design & Production 1 or permission of the department).

**Advanced Design & Production 3 (7237):** 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. Due to client requirements, students may need to work beyond the school day to meet deadlines. Successful students may have the opportunity to become paid interns in the summer Graphics Production program. (Prerequisite: Commercial Design & Production 2 or permission of the department)

**Crafts 1 (7120):** 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 the fundamentals of good design, visual creativity, technical skill, and craftsmanship.) Students compare and contrast 'Crafts' with other forms of visual art.

**Digital Art & Animation (7159):** 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 potentials of 21st Century digital tools.

**Motion Design (7246):** 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. (Prerequisite: Digital Art and Animation)

**Drafting & Linear Perspective 1 (7193):** 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.

**Drafting & Linear Perspective 2 (7196):** 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. (Prerequisite: Drafting & Linear Perspective 1, or permission of the department)

**Drawing & Painting 1 (7128):** 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. Prerequisites: None. 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 the FPA staff to determine eligibility for Art 2 Honors.

**Drawing & Painting 2 (7136):** 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. (Prerequisite: Drawing & Painting 1 or permission of the department)

**Introduction to Sculpture (7158)** 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) Prerequisites: None

**Introduction to Photography 1 (7176):** 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.

**Intermediate Photography 2 (7177):** 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! (Prerequisite: Introduction to Photography 1)

**Advanced Photography 3 (7178):** 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. (Prerequisite: Intermediate Photography 2) There is a medium amount of homework expected to fulfill to 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!

**Advanced Digital Portfolio (7185)** 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. (prereqs: Advanced Photo 3, Commercial Production, or permission of the Department)

**Product Design and Development (7258):** 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. Pre-requisites: This course is primarily for students in grades 10-12, who will benefit from having taken Digital Art & Animation; Commercial Design & Production 1; or Engineering Design 101 courses offered at NHS.

★ **Comics and Sequential Art (7236):** In his influential book *Understanding Comics*, Scott McCloud defines sequential art as "Images juxtaposed in deliberate sequence in order to convey an idea and/or an aesthetic response". Students will research sequential art, whether a Maya Codex or a 'Peanuts' cartoon, while exploring and creating their own visual narratives. These may take the form of a traditional comic strip or graphic novel, or be entirely different in content and form; there are so many exciting storytelling and conceptual possibilities. Our students' world is full of visual narratives - cartoons, movies, music videos, commercials, social media - and many high schoolers are avid consumers and producers of graphic story-telling; Marvel and DC superheroes, for example, or Manga. This class employs traditional art tools such as pen, ink, and brush, and explores many aspects of drawing, media, composition, and visual concepts. Prerequisite: Drawing and Painting 1, Art 1, or permission of the Department.

★ **A Glimpse Through Time: Visual Language and Culture (7255)** 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 and Design
8011	F	4	Symphonic Band Acc	8150	S	2	Theater Arts 1
8036	F	4	Jazz Ensemble (after school)	8157	S	2	Theater Arts 2
8040	S	2	Jazz Improvisation	8118	S	2	Music Technology 1: Song Writing
8060	F	4	String Orchestra	8119	S	2	Music Technology 2: Film Scoring
8061	F	4	String Orchestra Acc	8075	S	2	AP Music Theory 2
8085	F	2	After School Chorus	8070		2	Music Theory 1
8080/ 8077	S	2	Chorus/Bella Voce Chorus	8123	S	2	Contemporary Music Ensemble (after school)
8081/ 8041	F	4	Chorus Acc/ Bella Voce Chorus Acc	8125	S	2	Guitar Class 1
8074	F	4	Concert Chorale	8126	S	2	Guitar Class 2
8051	F	4	Concert Choral Acc	8127	F	4	Guitar Ensemble
8055	S	2	Chamber Music	8135	S	2	Piano Lab 1
8056	F	4	Chamber Orchestra	8136	S	2	Piano Lab 2
8151	F	4	Chamber Orchestra Acc				

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.

### **PERFORMANCE COURSES**

**Concert/Symphonic Band (8020/8029)** The High School Band is a full year, 4 credit performance course 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. Band is a four-credit course. Public concerts are part of each band's formal curricula and attendance at them is mandatory. (Prerequisite: Previous experience playing a traditional band instrument in an ensemble. Membership in Concert or Symphonic Band is required to audition for Jazz Ensemble, District and All-State Festivals)

**Symphonic Band Acc (8011):** 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. (Prerequisite: a minimum of one year's previous experience in high school band or department permission)

**Jazz Ensemble (8036):** This year long, 4 credit performance 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. (Prerequisite: Students must be members of Concert Band, Symphonic Band, or Marching Band to be eligible for Jazz Ensemble)

**Jazz Improvisation (8040):** The purpose of this one semester, 2 credit 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. (Prerequisite: At least two years successful performance in a middle or high school performing ensemble, or permission of the instructor)

**String Orchestra (8060):** The String Orchestra is a full year, 4 credit performance course 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 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. (Prerequisite: Previous playing experience in an orchestral style ensemble or department permission. Membership is required to audition for District and All-State Festival Orchestras.)

**String Orchestra Acc (8061):** 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. (Prerequisite: a minimum of one year previous experience in high school String Orchestra or department permission)

**Chamber Orchestra (8056):** The Chamber Strings Ensemble is a full year, 4 credit performance course 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. Prerequisite: Enrollment is open by audition.

**Chamber Orchestra Acc (8151):** 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. (Prerequisite: a minimum of one year previous experience in high school Orchestra or department permission)

**After-School Chorus (8085):** This two credit year long course (known as "Vocale" when performing) is specifically for those students who wish to continue to have a formal choral singing experience, and are not able to enroll in the major choral classes, such as Chorus or Bella Voce due to scheduling conflicts. The After-School Chorus meets on Tuesdays and Thursdays from 2:45 to 3:45 pm. Attendance at these after school classes is required as with any other credit bearing course. After School Chorus students take part in all major concerts that the other choruses perform in, with the students sometimes singing as a separate ensemble, while also joining the other

choral groups for a large choral ensemble experience. These concerts are a formal part of the curriculum and attendance is mandatory. After-School Chorus students are eligible to audition for District and All-state groups.

**Chorus (8080)/Bella Voce (8077):** The High School Chorus is a full year, 4 credit performance course open to all students in grades 9-12. 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 chorus in order to audition for District and All-State Festivals.

**Chorus Acc (8081)/Bella Voce Acc (8041):** 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. (Prerequisite: a minimum of one year of previous experience in high school chorus or department permission)

**Concert Chorale (8074):** Concert Chorale is a full year 4 credit performance course 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. (Prerequisite: Successful completion of the audition)

**Concert Chorale Acc (8051):** 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. (Prerequisite: a minimum of one year of previous experience in high school chorus or department permission)

**Chamber Music (8055):** This semester long, 2 credit performance class is open to students by audition only. Students will be placed into small Chamber Music groups. In this class students will further develop their range of musical skills through a vast and varied chamber music repertoire. They will also further develop interpersonal and collaboration skills, and their individual artistry. Class meetings will be split between coachings, student led rehearsals, masterclass performances, and training in score study and rehearsal techniques. Prerequisite: Previous experience playing in an ensemble and completion of a successful audition.

**Contemporary Music Ensemble (8123):** A full year 2 credit performance ensemble for students interested in performing contemporary music. The course will cover song styles, song forms, and techniques in genres ranging from blues, folk, rock, rhythm & blues, pop, and hip-hop. The goal is to provide students with the tools to create, arrange, and perform music by working in a collaborative environment. Student input in repertoire is strongly encouraged. This course meets twice a week for the entire school year outside of normal school hours (typically Tuesday and Thursday mornings prior to start of the school day). Informal audition and permission of the instructor is required for enrollment. Students will participate in school concerts as well as other school and community events.

**Guitar Ensemble (8127):** 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**

**Music Technology 1: Production and Songwriting (8118):** This one semester 2 credit course teaches students the skills and concepts needed for songwriting. They will compose original music using computers, software, and cloud based applications. Students will learn the same processes and tools that today's composers and recording artists use. Students will learn the basics of music technology, computer usage, music notation, composition, arranging, and theory to help them as they go through this process. This course has no prerequisite and is designed for students to be successful without having any previous formal musical training.

**Music Technology 2: Film Scoring (8119):** This one semester 2 credit course builds upon the skills and concepts taught in Music Technology 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. (Prerequisite: Music Technology 1 or permission of the instructor)

**Music Theory 1 (8070):** This one semester 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. (Prerequisite: the ability to read traditional music notation)

**AP Music Theory 2 (8075):** In this one semester 2 credit 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. (Prerequisite: Music Theory I or permission of the instructor)

**Guitar Class 1 (8125):** This 2 credit semester 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.

**Guitar Class 2 (8126):** This 2 credit semester 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. (Prerequisite: Guitar Class 1 or permission of the department)

**Piano Lab 1 (8135):** Piano Lab 1 is a 2 credit semester class that 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.

**Piano Lab 2 (8136):** Piano Lab 2 is a 2 credit semester class that 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. Prerequisite: Piano Lab 1 or permission of the Department.

**Theater Arts 1 (8150):** This semester, 2 credit course, open to all students, provides practice for the beginning/intermediate actor in voice, movement, and performance using scenes from a variety of plays, as well as improvisation and mime. Students learn the skills of projection and characterization by performing and critiquing scenes from plays and by developing original characters in specific settings. Class activities will culminate in at least one formal production in front of an audience. Preparation for this performance may require additional instructional time beyond the normal school day. No prior theatrical experience is necessary.

**Theater Arts 2 (8157):** This advanced theater 2 credit course builds upon and extends the skills developed in Theater Arts I. Emphasis in this course is on presentational acting techniques, 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 at least one formal production or presentation in front of an audience. Preparation for this performance may require instructional time beyond the normal school day. (Prerequisite: Theater Arts I or permission of the instructor. Students who have successfully completed both Theater Arts I and II may re-enroll in Theater Arts II for added credit with permission of the Department.)

**Theatrical Construction & Design (8165):** Theatrical Construction & Design is a 2 credit semester 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.

# 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	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
2041	F	4	Math 9 Extended Acc	2489	S	2	Robotics
2113	F	4	Algebra 2	2466	S	2	Engineering Design 101
2122	F	4	Algebra 2 Hon	2467	S	2	Computer Aided Design and Manufacturing
2013	F	4	Geometry	2482	S	2	Introduction to Computer Science
2082	F	4	Geometry Hon	2476	S	2	Computer Programming Fundamentals
2091	F	4	Geometry Acc	2488	S	2	AP Computer Science Principles
2043	F	4	Integrated Math 10	2490	F	4	Junior/Senior STEM Capstone/Junior/Senior STEM Capstone 2cr
				2496	S	2	
2134	F	4	Contemporary Applied Mathematics	9898	F	4	Work Study
2203	F	4	Pre-calculus	2311	F	4	AP Calculus AB
2212	F	4	Pre-calculus Hon	2321	F	4	AP Calculus BC
2221	F	4	Pre-calculus Acc AB	2331	F	4	AP Statistics
2231	F	4	Pre-calculus Acc BC	2481	F	4	AP Computer Science
2302	F	4	Calculus Hon	0491	F	8	The Greater Boston Proj Acc
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 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



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.

**MCAS Math Review:** Students who score within the **Not Meeting Expectations** or **Partially Meeting Expectations** range on the grade 8 MCAS exam 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

**Integrated Math 9 (2023)** 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 in order to 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)** 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. Students enrolled in Math 9 Accelerated should gain the foundation necessary to be recommended for Pre-Calculus AB. Graphing calculators will be used throughout the course. (Prerequisite: Math 8 or a course in Algebra 1. Please note: Students who take and pass Math 8 Accelerated will be placed in Advanced Math 9 Accelerated (2031) or Geometry Accelerated (2091) based on the Math 8 Accelerated performance benchmarks.)

★ **Mathematics 9IP (2042):** 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 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.

**Math 9 Extended Acc (2041)** Math 9 Extended is an accelerated course and will formalize and extend the mathematics that students learned in Math 8 Accelerated by reviewing the essential topics from Math 8 Accelerated, including linear systems, quadratics and higher-degree polynomial functions, rational functions, and exponential functions as well as finish any remaining topics which are taught in Math 9 Accelerated but not covered in Math 8 Accelerated, including: matrices, sequences and series, and statistics and probability. Content in the course is taught in a collaborative group environment, where students work with their peers to explore various situations and develop and present summative projects. Students will demonstrate their understanding through various assessment methods. Graphing calculators, one-to-one devices, and online graphing softwares will be used throughout the course. (Prerequisite: Math 8 Accelerated)

**Algebra 2 (2122 and 2113)** 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. (Prerequisite: Integrated Math 10 or a course in Algebra 1).

**Integrated Math 10 (2043)** 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 in order to 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.

**Geometry (2091, 2082, 2013)** 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 and web-based applications are used throughout the year to allow students to investigate geometric principles. (Prerequisites: Accelerated; A in Math 8 Accelerated, Math 9

**Contemporary Applied Mathematics (2134):** 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 (Prerequisite: Math 9 or Algebra II)

**Precalculus (2203 and 2212):** 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. (Prerequisite: B- or better in Math 9 or Algebra II and Geometry).

**Precalculus Acc-AB (2221):** 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. (Prerequisite: B- in Math 8 Accelerated, Math 9 Accelerated or Advanced Math 9 Accelerated and a B+ or better in Accelerated Geometry.)

**Precalculus Acc-BC (2231):** 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. (Prerequisite: 95 or above in Math 8 Accelerated, Math 9 Advanced Accelerated or Math 9 Accelerated and an A in Geometry Accelerated and teacher recommendation)

**Fundamentals of Calculus and Statistics (2333):** 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 (Prerequisite: B- or better in Precalculus CP or completion of Precalculus Honors)

**Calculus Hon (2302):** 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 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 (Prerequisite: B- or better in Honors Precalculus, C- or better in Precalculus Accelerated AB or teacher recommendation.)

**AP Calculus AB (2311):** 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 (Prerequisite: B- or better in Precalculus Accelerated AB, completion of Precalculus Accelerated BC or A in Precalculus Honors with teacher recommendation.)

\*Additional summer work may be required for students who have not taken Accelerated Pre- Calculus.

**AP Calculus BC (2321):** 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 (Prerequisite: B- or better in Precalculus Accelerated BC or A in Precalculus AB\* with teacher recommendation.) \*Additional summer work may be required for students who have not taken Accelerated Precalculus BC.

**Statistics Hon (2332):** 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 the 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. (Prerequisite: C- or better in Algebra II (Math 9) Accelerated, C+ or better in Algebra II (Math 9) Honors or C+ or better in Precalculus)

**AP Statistics (2331):** 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. (Prerequisite: B+ or better in Math 9 Accelerated, A or better in Math 9 or Algebra II Honors, B+ in Precalculus Honors, B- or better in Precalculus Accelerated AB, C- or better in Precalculus Accelerated BC or teacher recommendation.)

**Critical Thinking in Math (2475):** 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. (Prerequisite: 3 years of high school math)

**Introduction to Computer Science (2482):** 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 capstone project. (Prerequisite: B- or better in Math 8)

**AP Computer Science (2481):** 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. (Prerequisites: Priority for enrollment will be given to students who have, earned a B- or better in Introduction to Computer Science, Fundamentals of Computer Science or AP CS Principles. Students who have earned a B or better in Precalculus and receive Department Chair, or concurrent enrollment in Pre-calculus and Department Chair approval will also be considered for enrollment)

**AP Computer Science Principles (2488):** 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. (Prerequisites: Completion of Math 9. Additionally, having had the Introduction to Computer Science course is recommended or a comparable experience. The course closely follows the curriculum set by the College Board.

**Robotics I (2489):** 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 I will collaborate with students in Introduction to Sculpture for an interdisciplinary Kinetic Sculpture Unit. (2482 or equivalent). (Prerequisite: B or better in Math 9 or departmental permission)

**Personal Finance (2615):** 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 will be given to students in their junior and senior year.

**Principles of Accounting (2613):** Principles of Accounting is a one-semester course that 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 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. (Prerequisite: C or better in prior mathematics courses.)

**Integrated Senior Studies Acc: The Greater Boston Project (0491):** 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.

**Junior/Senior STEM Capstone (2490) or Junior/Senior STEM Capstone 2 credit (2496)** Junior/Senior STEM Capstone is 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.

**Work Study - full year, 4 credits (2 Math credits) (9898)** The Work Study class is designed to provide the skills needed to be successful in a work environment, as well as, provide the opportunity to earn credit for valuable work experience under school supervision. The class will meet outside of the regular school day to provide more flexibility for the students. The in-class time will focus on the skills, interactions, and knowledge needed to be successful in any job setting. Students will also acquire and apply practical math skills in order to gain a deeper understanding of how a business manages its operation, as well as, understand how to manage their own finances. Students will be required to have a job prior to enrolling and will be expected to work a minimum of 15 hours per week during the year. The class instructors 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 is limited and must be approved by the student's parent, counselor and assistant principal. The class will be graded on a Pass/Fail scale, based on fulfillment of the classroom requirements and satisfactory performance on the job.

**Computer Aided Design and Manufacturing (2467)** 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. (Prerequisite: B or better in Math 9 or Algebra 2 and a B or better in Physics)

**Engineering Design 101 (2466)** 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. (Prerequisite: Successful completion of Math 9 and current enrollment in Physics).

**Computer Programming Fundamentals (2476)** 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. (Prerequisite: 2482: Intro to Computer Science or Mathematics Department Chair approval)

★ **Multivariable Calculus (2234)** is a full year, 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. (Prerequisite: 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).

## **MEDIA**

Num	Length	Credit	Course
8455	S	2	Technology Leaders
8490	S	2	Television Communications 1
8495	S	2	Television Communications 2
8486	S	2	Television Production
8497	S	2	News and the Web
8595	S	2	Storytelling with Numbers
8498	S	2	Digital Game History & Design
8411	F	4	AP Capstone Seminar
8411	F	4	★ AP Capstone Research

**Technology Leaders (8455):** 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. Prior to course selection, a technology specialist must interview interested students.

**Television Communications 1 (8490):** 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.

**Television Communications 2 (8495):** 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. (Prerequisite: Television Communication 1)

**News and the Web (8497):** This course is designed for students who wish to examine web design through the lens of news. During this class, students will learn how to critically examine news sources, further their own understanding of what news is, and tell stories through words, images, and sounds. Students will learn to apply the basics of web design, including basic graphics, layout, animation, and video production. Students will also examine their ethical role as a creator throughout this course. The course level is beginner to intermediate. 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.

**Storytelling with Numbers (8595):** Storytelling with Numbers teaches students the fundamentals of data visualization, spreadsheets, and how to communicate effectively with data. Students will learn how to use data to create an engaging, informative, compelling story. They will create their own surveys, explore survey bias, and analyze the resulting data. Students will be able to evaluate graphic representations of data and identify the purpose behind the graphic. Utilizing these skills, the class culminates in a final project with the presentation of data in what the student deems the most effective method. Included in this course are topics such as basics of spreadsheets, analyzing data and graphs, designing and analyzing surveys, importance of context, models of visual data, basics of visual design, using data to tell a story.

**Digital Game History & Design (8498):** 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 creating a choose your own adventure computer 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.

**Television Production (8486):** 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. (Prerequisite: Television Communication I)

**AP Capstone Seminar (8411):** 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. Prerequisites: teacher recommendation, preference given to sophomores and juniors.

★ **AP Capstone Research (8412):** 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 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. Prerequisites: successful completion of AP Seminar.

## Media Facilities

Students and staff have many resources available, both physical and virtual. Teachers schedule their classes to work on projects in the Library, Multimedia Lab (409), Television Studio, or two computer labs. Students may work independently in the Library before and after school or during study periods. The NHS Library web page offers many tools for research, including the web catalog, databases, citation help, and pathfinders for class projects. NHS has a wireless network, 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	3610	S	2	Introduction to Astronomy
3123	F	4	Physics	3642	F	4	Marine Science Hon
3201	F	4	Chemistry Acc	3701	F	8	AP Biology
3212	F	4	Chemistry Hon	3801	F	8	AP Physics
3223	F	4	Chemistry	3901	F	8	AP Chemistry
3401	F	4	Physiology Acc	2490	F	4	Junior/Senior STEM Capstone
3412	F	4	Physiology Hon	2496	S	2	Junior/Senior STEM Capstone- 2 cr

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 provides knowledge and skills in experimental scientific methods, life sciences, physical sciences, and chemical sciences. Science offerings in grades 9, 10, and 11 provide foundational content in Biology, Physics, and Chemistry while building hands-on laboratory practices and technical communication skills. Each of the disciplines seek to present core content through common thematic concepts across the physical and life sciences. Senior elective offerings provide a wide range of opportunities for students to integrate and deepen their understanding of science within and across the major disciplines, including Advanced Placement courses. Assignments in all courses work to develop data analysis and presentation skills, the ability to apply theories and methods to real world situations, engineering practices and technical writing skills. Content in each course aligns with the Massachusetts Science and Technology/Engineering standards (<http://www.doe.mass.edu/stem/standards/StandardsDraft.pdf>) and prepares students for MCAS testing. Twelve credits, 3 years, of science are required for graduation.

Science Department Course Expectations (Broken down by Level)			
	Accelerated	Honors	College Prep
Differentiation among levels	Can conduct research in scientific topics and find appropriate supporting resources independently.  Can synthesize multiple sources of data and research in formulating an argument.	Can analyze multiple sources of data and research in formulating an argument.	Can apply multiple sources of data and research in formulating an argument.
Time Management	Ability to manage time independently.	With assistance, is guided toward independent time management.	Curriculum is structured to provide support for time management.
Homework Expectations (on average)	2 - 4 hours per week.	1 - 2 hours per week.	30 minutes to 1 hour per week.



**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.

## Biology

**Accelerated, Honors, College Prep (3001, 3012, 3023):** 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.

★ **Biology 9IP (3022)** 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.

## Physics

**Accelerated, Honors, College Prep (3101, 3112, 3123):** 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.

## Chemistry

**Accelerated, Honors, College Prep (3201, 3212, 3223):** 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.

## 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 Honors Algebra II.

**Chemistry College Prep (3223)** - Students should be simultaneously enrolled in Algebra II or higher.

## Senior Electives - Full Year

**Anatomy and Physiology:** 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.

**Physiology Acc (3401):** 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. This course is designed to mimic a college level physiology course and prepare students for the rigors of self directed study.

**Physiology Hon (3412):** Students will perform experiments to study essential structures and functions of the human body. This class incorporates written assignments and also provides alternative ways of demonstrating understanding and knowledge. It involves both independent and group work within the classroom, while making connections and applying understanding to real-world medical situations. This course is designed to build the foundation of skills to succeed at college level courses.

**Modern Physics Hon (3502):** A course designed to introduce students to the major developments in physics over the past 150 years. 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. Prerequisite: Students must have earned a passing grade in 10th grade physics to enroll in this course.

**Experiencing Chemistry Hon (3542):** 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.

**Environmental Science:** 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 initiative 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.

**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

**Marine Science Hon (3642):** 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.

**Introduction to Astronomy (3610):** 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.

**Junior/Senior STEM Capstone (2490) or Junior/Senior STEM Capstone 2 credit (2496)** Junior/Senior STEM Capstone is 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

**AP Biology (3701):** 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.

**AP Physics (3801):** 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.

**AP Chemistry (3901):** 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
	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 and Contemporary Issues Hon
4301	F	4	AP U.S. History	4441	F	4	AP United States Government
4302	F	4	United States History Hon	4445	F	4	Debate and Argument
4303	F	4	United States History	0491	F	8	The Greater Boston Project
4311	F	4	United States History Acc	4214	S	2	History, Politics, and Popular Music

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**

**World History, Middle Ages to the Nineteenth Century (4101; 4102; 4103):** 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.

★ **World History 9IP (4112):** 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**

**The World and America - Accelerated, Honors, and College Prep (4201; 4202; 4203):** 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.

## **Grade Eleven**

**AP U.S. History (4301):** 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.

**Accelerated United States History (4311)** 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.

**United States History - Honors and College Prep (4302; 4303):** 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

**Debate and Argument (4445): OPEN TO ALL GRADES-** 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.

**The following Electives are open to Seniors and Juniors:**

**The American Legal System Hon (4402):** 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.

**Economics Honors (4412):** 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.

**Psychology and Sociology Honors and College Prep (4422, 4423):** 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.

**African American Studies and Contemporary Issues Hon (4462):** 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.

**The World Since 1945 Hon(4212):** 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.

### **History, Politics, and Popular Music (4214)**

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! For 11th and 12th grade students only.

**The following Electives are open to Seniors only:**

**AP Psychology (4421):** 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.

**AP United States Government (4441):** 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. (Prerequisite: A full year of US History)

**Integrated Senior Studies Accelerated: The Greater Boston Project (0491)** 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, respectful, 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 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.



### **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.

### **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.

### **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 on 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 consequence 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.

## 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.

### Wellness 9

**9th Grade Health:** 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 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>

## Wellness 10

**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.

## Wellness 11

**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 (belay, back-up belayer, anchor, and rope attendant) so that they can better work as a team to support climbers.

## Wellness 12

**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 a 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:**

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 a 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).

Current NHS students should make their course level selection in consultation with their current world language teacher.

## French

**French 1 (1112):** 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.

**French 2 (1121, 1122):** 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.

**French 3 (1131, 1132):** 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.

**French 4 (1141, 1142):** 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.

**French 5 (1161, ★ 1152):** 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.

**Advanced Placement French Language and Culture (1171):** 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 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

**Spanish 1 (1512, 1513):** 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.

**Spanish 2 (1521, 1522, 1523):** 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.

**Spanish 3 (1531, 1532, 1533):** 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.

**Spanish 4 (1541, 1542, 1563):** 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 of selected works of literature and culture of the 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).

**Spanish 5 (1561, ★ 1552):** 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.

**Advanced Placement Spanish Language and Culture (1581):** 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)

**Mandarin 1 (1602):** 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.

**Mandarin 2 (1612, 1621):** This course for students who began their study of Mandarin in middle school and are entering grade 9; or for 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.

**Mandarin 3 (1631, 1622):** 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 in good speed.

**Mandarin 4 (1641, 1632):** 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.

**Mandarin 5 Acc (1681):** 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, newspaper, films, and short stories.

**AP Mandarin Chinese Language and Culture (1691):** 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, newspaper, films, and short stories.

# Latin

The Latin program focuses on the following areas: (1) developing students' understanding of the impact of Latin 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.

**Latin 1 (1311, 1312, 1313):** 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.

**Latin 2 (1321, 1322):** 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.

**Latin 3 (1331, 1332):** 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.

**Latin 4 (1341, 1342):** 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

**INDEX World Language (1719):** 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. 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.

# **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, and accept support and assistance from teachers. Students earn credit for these classes. PLC and SKILLS classes are considered “major” classes and can be considered toward athletic eligibility.

**GRADE LEVEL SKILLS CLASSES** are designed to serve students who are registered into general education College Prep, Honors or Accelerated level academic classes and who require 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.

**9TH GRADE ACADEMY** provides support for students who require a language-based approach to learning. Students participate in College Prep Level general education classes where small class sizes and consistency of practices and routines are infused into their academic program through a variety of staffing supports so students can internalize these practices and make educational progress. This is open to all students enrolling in college prep level 9th grade classes.

**SKILLS CLASS** in the **CONNECTIONS PROGRAM** provides organizational support, academic and therapeutic interventions including individual and group counseling. Students learn coping skills in order to become successful students. Recommendations for Skills classes and frequency are made by the student’s IEP team.

**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.

**FOUNDATIONS SUBJECT AREA CLASSES** (in English, Social Studies, Math, and Science) are special education classes that provide a modified curriculum and are delivered in a small group environment. The curriculum follows the Common Core Standards in each subject. Recommendations for Skills classes and frequency are made by the student’s IEP team.

**The SKILLS AND CAREER DEVELOPMENT PROGRAM** is a community based model of instruction for students who require transition services as designated by their IEP’s. The program is designed to promote a seamless transition from High School to the demands of adulthood. “Undergraduate students” complete a combination of mainstream 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 academic portion of their program, students 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.

**THE PATHWAYS PROGRAM** is a sub separate 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.

**\*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 Support Team (SST).

\*PLC is overseen by the special education department but is not a special education service.

# **GUIDANCE DEPARTMENT SERVICES**

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 and 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 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 facilitate 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 Personal Counselors (divided alphabetically) for four years.

### **Personal Counselor Assignments 2020-2021**

Counselor	Jennifer Roberts, LICSW	Amanda Katz, LICSW
Phone	781-455-0800 x22150	781-455-0800, x22106
E-mail	Jennifer_Roberts@needham.k12.ma.us	Amanda_Katz@needham.k12.ma.us
Class of 2021	A-Lob	Loc-Z
Class of 2022	A-K	L-Z
Class of 2023	A-Linc	Lind-Z
Class of 2024	A-K	L-Z

### **School Adjustment Counselors / Transition Program Social Worker**

The school adjustment counselors work with students who have a specific social-emotional goal within an Individualized Education Plan (IEP). The Transition Program Social Worker works with students returning back to school after a mental health crisis or significant medical event.

Michelle Brenhisser, LICSW  
Michell\_Brenhisser@needham.k12.ma.us

Heather Harris, LMCH  
Heather\_Harris@needham.k12.ma.us

Bobby Hermesesch, LICSW  
bobby\_hermesch@needham.k12.ma.us

# 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.

## School Counselor Assignments 2020-2021

Counselor	Grade 12 (2021)	Grade 11 (2022)	Grade 10 (2023)	Grade 9 (2024)
Will Grannan (x22118)	A-Ca	A-Cla	A-Bro	TBD
Renee Vasquez (x22126)	Ce-E	Clo-Fr	Bru-Dad	TBD
Matthew Howard (x22120)	F-Ha	Ful-Joh	Dem-Gl	TBD
I' Esha Thomas (x22122)	He-K	Jon-Linc	Go-Kin	TBD
Mary Jane Walker (x22127)	L-McGra	Lind-Muro	Kir-Mel	TBD
James Ash (x22116)	McGro-Pi	Murp-Rose	Men-P	TBD
Meridith Welch (x22128)	Po-Sp	Rosen-Szet	R-Sul	TBD
Shannon Mastropalo (x22123)	St.-Z	Szewc- Z	Sun-Z	TBD

### **Contact Information:**

Tom Denton, Director of Guidance, ext. 22130 or Tom\_Denton@needham.k12.ma.us

Jean McDavitt, Guidance Secretary, ext. 22144 or Jean\_McDavitt@needham.k12.ma.us

Email addresses:

James\_Ash@needham.k12.ma.us

Renee\_Vasquez\_Soliz@needham.k12.ma.us

Will\_Grannan@needham.k12.ma.us

Matthew\_Howard@needham.k12.ma.us

Shannon\_Mastropalo@needham.k12.ma.us

I' esha\_Thomas@needham.k12.ma.us

Mary\_Jane\_Walker@needham.k12.ma.us

Meridith\_Welch@needham.k12.ma.us

### **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. 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 insure 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.

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 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, 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 a 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.

All students and families have access to the comprehensive Guidance Database in Naviance throughout the Postsecondary Planning Process. They also have access to Guidance Department's Postsecondary website: <http://nhs.needham.k12.ma.us/college/default.htm>

## **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 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 years Mathematics: 3-4 years Sciences: 3 years (two of which must be lab sciences) World Language: 2-4 years

In addition to a student's 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 college admission 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' web sites for additional information about such events.

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 describing the following testing programs are available in the 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) and the Subject Tests, 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:

#### **9th Grade Year/ 10th Grade Year**

For students in accelerated math and science who are earning a B or better, it may be beneficial to take an SAT - Subject Test in a terminal subject in June of the 9th or 10th grade year. Refer to the chart below and consult subject area teachers and School counselors for more information.

Grade 9: Biology, Grade 10: Physics, World History, Math I

#### **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 and Subject tests are usually taken by juniors in the spring of the junior year. Subject tests should be taken in terminal subjects if they are required or recommended for admission to colleges. 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 SAT and Subject Tests 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.

Refer to [collegeboard.com](http://collegeboard.com) and [actstudent.org](http://actstudent.org) for exact test dates.

### **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 the PSAT, SAT, AP, Subject Tests and the ACT. 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 application 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.

DRAFT



## Needham School Committee

January 28, 2020

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Agenda Item:     **Discussion**

### **Proposed 2020-2021 School Calendar**

#### Background Information:

- The proposed 2020-21 school calendar is enclosed for your review and discussion.
- The calendar will be brought back for a vote at the next meeting.

#### Persons Available for Presentation:

Dr. Dan Gutekanst, Superintendent of Schools

**NEEDHAM PUBLIC SCHOOLS  
SCHOOL CALENDAR**

**DRAFT**

**2020-2021**

August/September (19)					February (15)					AUGUST 2020				
M	T	W	Th	F	M	T	W	Th	F	8/31	All Staff Meeting/Professional Development			
										SEPTEMBER 2020				
31	1	2	3	4	1	2	3	4	5	9/1	Professional Development			
7	8	9	10	11	8	9	10	11	12	9/2	First Day of School Grades 1-12			
14	15	16	17	18	15	16	17	18	19	9/3	Kindergarten begins/Preschool Orientation			
21	22	23	24	25	22	23	24	25	26	9/4	First Day of Preschool			
28	29	30								9/7	Labor Day - No School			
										9/23	Prek-8 Early Release			
										9/28	Yom Kippur - No School			
										OCTOBER 2020				
										10/12	Columbus Day - No School			
										10/21	PreK-12 Early Release			
										NOVEMBER 2020				
										11/3	ELECTION DAY - SCHOOL ALL DAY			
										11/11	Veterans' Day No School			
										11/18	PreK-8 Early Release			
										11/25	No School- Professional Development			
										11/26-27	Thanksgiving Recess			
										DECEMBER 2020				
										12/9	PreK-12 Early Release			
										12/24-1/1	Winter Recess			
										JANUARY 2021				
										1/4	Classes Resume			
										1/13	PreK-8 Early Release			
										1/18	Martin Luther King Jr. - No School			
										1/27	PreK-12 Early Release			
										FEBRUARY 2021				
										2/10	PreK-12 Early Release			
										2/15-19	February Recess			
										MARCH 2021				
										3/3	Prek-8 Early Release			
										3/17	PreK-12 Early Release			
										APRIL 2021				
										4/2	Good Friday - No School			
										4/7	PreK-8 Early Release			
										4/19-4/23	April Recess			
										MAY 2021				
										5/5	PreK-12 Early Release			
										5/19	PreK-8 Early Release			
										5/31	Memorial Day - No School			
										JUNE 2021				
										6/2	PreK-8 Early Release			
										6/6	GRADUATION: SUNDAY, JUNE 6, 2021			
										6/17	Last day if no snow days-ER			
										6/24	Last day 5 snow days-ER			

	Holiday/Recess
	Pre-K-8 Early Release (ER)
	PreK-12 Early Release(ER)
	Professional Dev. Day

NOTE: Classes at the high school (grades 9-12) begin at 8:35 on Fridays.

Holiday/Recess

Pre-K-8 Early Release (ER)

PreK-12 Early Release(ER)

Professional Dev. Day

NOTE: Classes at the high school  
(grades 9-12) begin at 8:35 on Fridays.



## Needham School Committee

January 28, 2020

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Agenda Item:     **Discussion**

### **School Committee Policies:**

- IGA Instructional Program of the Needham Public Schools Revision 1
- IGAC Teaching about Religion Revision 1
- DDAA Grants
- DDAB Gifts, Donations and Fundraising
- DDAC Student Awards, Honors and Scholarships
- JQ Student Fees, Fines, and Charges

### Background Information:

- The Policy Subcommittee has reviewed and revised these policies for discussion by the School Committee.
- The policies will be brought back for further discussion and vote at a subsequent meeting.

### Persons Available for Presentation:

Dr. Connie Barr, Policy Subcommittee Member  
Ms. Heidi Black, Policy Subcommittee Member  
Mr. Matthew Spengler, Policy Subcommittee Member

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

IGA

Policy for:  INSTRUCTIONAL PROGRAM OF THE NEEDHAM PUBLIC SCHOOLS	Revision 1
Date Approved by School Committee:	Signature of Chair:  Page 1 of 1

The primary responsibility of the Needham Public Schools is to equip all children with the knowledge, skills, and attributes that will prepare them to be:

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

The curriculum, which is designed to fulfill this obligation, is aligned to current state standards and employs effective instructional practices. It is reviewed periodically, documented in a standard format, and published online in appropriate curriculum/program guides.

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

IGAC

Policy for:	Revision 1
TEACHING ABOUT RELIGION	
Date Approved by School Committee:	Signature of Chair: Page 1 of 1

Religion is an important part of the historical, cultural, literary, artistic, and social development of nations throughout the world. For this reason, it is appropriate to include the role of religion and its influence on human institutions as part of a secular educational program.

When presented in a classroom as part of a well-articulated curriculum, instruction should promote understanding, tolerance, and respect for religion within the context of a pluralistic society. In the Needham Public Schools, religion should be discussed from a cultural and historical perspective in a neutral, objective, and factual manner.



SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAA

Policy for:	Revision
GRANTS	1
Date Approved by School Committee:	Signature of Chair: Page 1 of 2

The School Committee encourages the administration to seek and secure any possible sources of federal, state and local funds to enhance the educational opportunities for the children in our schools.

The Superintendent may appoint an administrator(s) to seek out and coordinate the development of proposals for grant-funded projects and activities.

All grants must be accepted by vote of the School Committee upon the prior recommendation of the Superintendent, before they may be spent or used in the Needham Public Schools ("NPS.") The School Committee reserves the right to review and reject any grant when it deems acceptance to be inappropriate or unlawful. Reasons for rejection may include, but are not limited to:

1. The grant will require special supplies or maintenance, or entail other significant costs that are not covered by the grant. Such grants may be subject to acceptance on the condition that sufficient additional funds will accompany the grant to cover such additional costs or maintenance for any period designated by the School Committee.
2. The grant is incompatible with existing or planned curriculum, programs, facilities or equipment, or with School Committee policy;
3. The grant may offer a disproportionate advantage in educational opportunity to a specific classroom, school or segment of the school population;
4. The grant is construed by the School Committee as compromising the educational integrity of the NPS;
5. The grant discriminates on the basis of race, color, sex, homeless status, gender identity, religion, national origin, sexual orientation, disability or age.
6. The grant would involve unreasonable acknowledgement or advertising by the grantor.

The Assistant Superintendent for Finance and Operations will be responsible for the proper expenditure of funds received for such projects. This individual will have general responsibility for a) developing fiscal controls and written procedures for grant operations, b) ensuring compliance with applicable statute, regulation and grant terms and conditions; c) soliciting School Committee approval for new or amended grants, d) ensuring the appropriate

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAA

Policy for:  GRANTS	Revision 1
Date Approved by School Committee:	Signature of Chair:  Page 2 of 2

transmission of funds between grant agency and grant recipient; e) ensuring the accurate and appropriate use, recording and reporting of use of grant funds, and f) maintaining required grant documentation and records.

The Superintendent or designee is authorized to sign all grant applications and reports.

The School Committee is responsible for accepting all grants.

## Legal References:

M.G.L. c. 44, § 53A

M.G.L. c. 71, § 37A

2 C.F.R. §200

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAB

Policy for: <p style="text-align: center;">GIFTS, DONATIONS &amp; FUNDRAISING</p>	Revision <p style="text-align: center;">3</p>
Date Approved by School Committee:	Signature of Chair:  Page 1 of 5

### I. Acceptance of Gifts and Donations

The Needham School Committee may accept gifts or donations for educational purposes, as proscribed by law. All gifts must be accepted by vote of the School Committee upon the prior recommendation of the Building Principal or Superintendent before they may be spent or used in the Needham Public Schools (“NPS.”)

The School Committee reserves the right to review and reject any gift when it deems acceptance to be inappropriate or unlawful. Reasons for rejection may include, but are not limited to:

1. The gift will require special supplies or maintenance, or entail other significant costs that are not covered by the gift. Such gifts may be subject to acceptance on the condition that sufficient additional funds will accompany the gift to cover such additional costs or maintenance for any period designated by the School Committee.
2. The gift is incompatible with existing or planned curriculum, programs, facilities or equipment, or with School Committee policy;
3. The gift may offer a disproportionate advantage in educational opportunity to a specific classroom, school or segment of the school population;
4. The gift is construed by the School Committee as compromising the educational integrity of the NPS;
5. The gift discriminates on the basis of race, color, sex, homeless status, gender identity, religion, national origin, sexual orientation, disability or age.
6. The gift would involve unreasonable acknowledgement or advertising by the donor.

The School Committee discourages the practice of soliciting or receiving donations for construction and public works projects, including the construction and installation of playground equipment. The School Committee will not accept a donation for construction or public works projects from any donor unless the parties involved have complied with the Town's design, selection, and construction procedures. (Guidelines outlining this process are available from the Superintendent.)

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAB

Policy for: GIFTS, DONATIONS & FUNDRAISING	Revision 3
Date Approved by School Committee:	Signature of Chair:  Page 2 of 5

II. Fundraising

Students will not be required to participate in any fundraising activity.

Fundraising activities on behalf of NPS programs or its students require the prior approval of the building principal (or the Superintendent if more than one school is involved), when one or more of the following apply:

1. The fundraising activity occurs at any school sponsored events (i.e., events that are organized and managed by NPS, including but not limited to, athletic contests and dramatic and musical performances), whether or not such events occur on NPS grounds.
2. The fundraising activity is organized and managed by school organizations, i.e., student groups, clubs or athletic teams for which NPS is organizationally responsible, including but not limited to, organizations that receive funds from the school's student activity account.
3. The fundraising activity takes place on NPS property for the benefit of NPS, its programs, or its students.
4. The fundraising activity is a raffle or other game of chance, the purpose of which is to benefit the NPS. Any organization or group conducting a raffle shall be responsible for ensuring that all relevant laws are adhered to, including but not limited to, M.G.L. Ch. 271 s7A. School organizations and NPS students are prohibited from conducting raffles or other games of chance.

The School Committee expects that any fundraising activities conducted for the benefit of NPS be conducted in a lawful manner that is consistent with preserving the good name and reputation of the Needham Public Schools, and which protects the safety and well-being of students. Questions regarding the appropriateness of the activity may be directed to the building principal, or to the Superintendent if more than one school is involved. NPS will not accept donations from individuals or organizations that are generated by inappropriate or unlawful fundraising activities or events.

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAB

Policy for: <p style="text-align: center;">GIFTS, DONATIONS &amp; FUNDRAISING</p>	Revision <p style="text-align: center;">3</p>
Date Approved by School Committee:	Signature of Chair:  Page 3 of 5

All proceeds from fundraising activities that benefit NPS must be accepted by vote of the School Committee, upon the prior recommendation of the building principal. The School Committee reserves the right to review and reject any gift or grant when it deems acceptance to be inappropriate.

Staff members may, consistent with the Conflict of Interest Law (M.G.L. Ch. 268A), solicit donations to benefit the NPS, provided that (1) the solicitation is carried out in accordance with M.G.L. c. 44, § 53A; (2) the solicitation is not made in circumstances that are inherently coercive; (3) no overt pressure is exerted in connection with any such solicitation; (4) the Town and its employees apply objective standards in all dealings with persons and entities solicited; and (5) the staff member principally responsible for making such solicitations discloses the names of all those solicited to the Superintendent publicly and in writing.

Non-school groups, such as parent groups or booster clubs, are recognized as separate organizations who may conduct legal fundraising on behalf of NPS using their own taxpayer identification numbers, legal addresses and independent bank accounts. In addition, non-school groups conducting events and activities for the benefit of NPS shall agree that the non-school group shall indemnify and hold harmless NPS from any claim or cause of action related to the event. The building principal and Superintendent, as the case may be, shall be responsible for securing such agreement from the non-school group in advance of providing approval for the event or activity. It is also recommended that such non-school groups purchase insurance for the protection of the group and its members.

If non-school groups wish to use school facilities for their event or activity, the NPS facilities use policy shall be followed.

It is the policy of NPS to prohibit fundraising activities that endorse or sanction certain commercial activities, that disrupt school routine or cause a loss of instructional time, that involve the direct solicitation of students, or that require the general or class distribution of commercial or fundraising literature. Exceptions to this policy may be made only by vote of the School Committee. This policy shall not prohibit legitimate fundraising by student groups.

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAB

Policy for: GIFTS, DONATIONS & FUNDRAISING	Revision 3
Date Approved by School Committee:                      Signature of Chair:	Page 4 of 5

III. Student/Parent Gift Giving to Staff Members

The School Committee discourages the gifting of gifts of appreciation by students or parents to individual staff members (including, but not limited to, administrators, teachers, coaches, support employees). All school employees should be aware that Massachusetts Conflict of Interest Law, M.G.L. Chapter 268A governs the giving and receiving of gifts.

Students and parents may consider contributions in honor of a staff member to a NPS Program, i.e., scholarship, media center, or educational fund, in lieu of gifts to staff members. Such contributions are always appreciated.

IV. Student Gift Exchange

The NPS discourages the school-organized exchange of gifts between students.

V. Gifting Public Funds

School funds (including grants, contributions and donations) may not be given to or in aid of any individual, association or corporation embarking on a private enterprise, or to any charitable or religious undertaking that is not publicly owned and under the exclusive control of Commonwealth public officers or agents. It is the opinion of NPS that agency funds, including student activity funds, do not constitute public funds.

This policy does not preclude the School Department from making awards to students, or spending reasonable amounts on retirement gifts, plaques, or other similar awards to employees and public officials in recognition of public services rendered to enhance employee loyalty or productivity.

Funeral flowers, sympathy cards or other expressions of sentiment that are incidental to the social relationships that employees develop during work are not expenses made for public purposes and are therefore, prohibited.

The giving of gifts and gratuities to persons whose situations may appeal to public sympathy also is prohibited, since public money can only be expended for public purposes. This policy

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAB

Policy for: GIFTS, DONATIONS & FUNDRAISING	Revision 3
Date Approved by School Committee:	Signature of Chair:  Page 5 of 5

does not preclude tips paid on meals, or in the course of travel, so long as the expense is reasonable, incurred as a condition of employment, and is approved by a supervising administrator.

#### VI. Solicitations by Students on School Grounds

While the School Committee recognizes that student participation in school-sponsored fundraising or fundraising for local, national, or international programs, including those for charity and relief, can be most commendable, student groups must seek the prior approval of the building principal for all fundraising on school grounds or at school-sponsored events. School officials may prohibit any fundraising that is considered disruptive to the school environment.

#### VII. Crowdfunding

The School Committee prohibits the use of crowdfunding or third-party fundraising platforms or services by students or staff members. These tools are inherently incompatible with statutes, which require that all monies received by the NPS to be deposited into the Town treasury and accepted by vote of the School Committee before they may be used or expended.

#### Legal References:

M.G.L. c. 44, § 53

M.G.L. c. 44, § 53A

M.G.L. c. 71, § 37A

M.G.L. c. 268A

M.G.L. c. 271, § 7A

EC-COI-12-1, Massachusetts State Ethics Commission, 7/20/12

603 CMR 26.07

Anti-Aid Amendment, Section 2 of Article 46 of the Amendments to the Massachusetts Constitution (as amended in 1974 by Art. 103 of the Amendments)

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAC

Policy for: STUDENT AWARDS, HONORS AND SCHOLARSHIPS	Revision 1
Date Approved by School Committee: Signature of Chair:	Page 1 of 4

The School Committee supports the establishment of student awards, honors and scholarships to recognize student achievement.

The School Committee gratefully acknowledges the generosity of those persons who wish to establish or contribute to scholarships and awards for the benefit of Needham Public School students. All gifts and contributions to support a scholarship fund or student award must be accepted by vote of the School Committee, before they may be used or expended.

To ensure that scholarship and award funds are distributed in a way that is both meaningful to the recipient and respectful of the donor(s), the School Committee has established the following rules for the acceptance, administration, investment and distribution of said funds.

## 1. Types of Scholarships and Awards:

### a. Perpetual Scholarship or Award

Definition - A Perpetual Scholarship or Award (or nonexpendable scholarship) results from a gift of funds that may not be expended, i.e., the principal is to be invested in perpetuity. The income and growth can be distributed. The donor may specify certain aspects of the award, including, but not limited to, the name of the award, the award amount, the purpose of the award, or the qualifications of the award recipient.

Gift Minimum - \$5,000 The minimum dollar amount that may be accepted as a Perpetual Scholarship or Award is \$5,000. Additions of not less than \$1,000 may be accepted.



SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAC

Policy for: STUDENT AWARDS, HONORS AND SCHOLARSHIPS	Revision 1
Date Approved by School Committee:	Signature of Chair:  Page 2 of 4

b. Expendable Scholarship or Award

Definition - An Expendable Scholarship or Award (or expendable scholarship) results from a gift of funds that may be expended, i.e., the funds may be distributed as well as any income and growth the funds produce. The donor may specify certain aspects of the scholarship or award, including, but not limited to, the name, the amount, the purpose and the qualifications of the recipient.

Gift Minimum - \$5,000. The minimum dollar amount that may be accepted as an Expendable Scholarship or Award is \$5,000, provided that all of the funds, including principal, may be expended.

c. One-Time Scholarship or Award

Definition - A One-Time Scholarship or Award results from a gift of funds that is to be distributed within one year. The donor may specify certain aspects of the scholarship or award, including, but not limited to, the name, the amount, the purpose and the qualifications of the recipient.

Gift Minimum - \$250

d. Privately-Held Scholarship or Award

Definition - An award that is managed and disbursed directly to a student by a family or third-party donor. These funds are not held by the Town of Needham.

Gift Minimum – \$250

**II. Acceptance of Scholarship and Award Funds:**

All scholarships and awards distributed in association with Needham High School or the Needham Public Schools will first be authorized by vote of the Needham School Committee, including those scholarships and awards that will be held and disbursed by third-party entities. Additionally, all monetary gifts and contributions to support a scholarship fund or student award must be accepted by vote of the School Committee, before they may be used or expended. Following the acceptance of such monetary gifts by the Committee, funds

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAC

Policy for: STUDENT AWARDS, HONORS AND SCHOLARSHIPS	Revision 1
Date Approved by School Committee:                      Signature of Chair:	Page 3 of 4

become the property of the Town of Needham, and will be held and invested by the Town Treasurer, as directed by the Town of Needham Trust Fund Commissioners and as provided by law.

The High School must receive all funds intended for distribution during an academic year by April 1st of that year. Funds received after April 1 will be expended for the following academic year, except with the approval of the School Committee.

All fundraising on behalf of Needham Public Schools must conform to School Committee Policy #DDAB on fundraising.

### III. Selection of Recipients and Distribution:

a. A Scholarship Selection Committee, annually appointed by the High School Principal to include representation from Guidance, Athletics and academic departments, or other designee(s), will conduct the selection of recipients in Grades 9-12. In the event that a scholarship or award benefits students at a different school or grade level, a similar committee will convene at the applicable school or level.

b. Awards

Scholarships and awards will conform to applicable law and regulation, including 603 CMB 26.07, which prohibits discrimination on the basis of sex, race, color, religion, national origin, or sexual orientation.

The School Committee encourages prospective donors of new scholarship or trust funds to make the proposed scholarship or award available to all Needham High School students, including non-resident students.

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

DDAC

Policy for: STUDENT AWARDS, HONORS AND SCHOLARSHIPS	Revision 1
Date Approved by School Committee:	Signature of Chair:  Page 4 of 4

#### IV. Administration

- a. The School Principal will be responsible for:
  - i. Recommending the creation of new scholarships or awards, upon initial proposal.
  - ii. Serving as the point of contact with donors and recipients for selection and award.
  - iii. Overseeing the selection of award recipients and the presentation of awards.
  - iv. Annually publishing a list of scholarship and award recipients.
- b. The Assistant Superintendent for Finance & Administration will be responsible for:
  - i. Verifying the availability of funds/ disbursement commitment from third-party donors.
  - ii. Maintaining records of all scholarships and awards including correspondence, required forms and other pertinent documents.
  - iii. Soliciting School Committee approval of new scholarships and awards, or monetary gifts and contributions.
  - iii. Providing acknowledgement of the receipt of each gift.
  - iv. Providing the Town Treasurer with a disbursement register.
  - v. Processing receipts and disbursements through the Town's warrant process.
- c. The Town Treasurer will:
  - i. Hold and invest the funds.
  - ii. Provide the School Committee with investment performance results for all Town-held scholarship and award funds, in the Fall of each year, for use in determining annual distributions.
- c. The Town Trust Fund Commissioners will:
  - i. Oversee and authorize the investment and disbursement of Town-held scholarship and award funds.

#### Legal References:

M.G.L. c. 40 § 3  
 M.G.L. c. 41 § 45 - 47  
 M.G.L. c. 44 § 53A  
 M.G.L. c. 71 § 37A  
 M.G.L. c. 60 § 3C  
 2 C.F.R. §200

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

JQ

Policy for: STUDENT FEES, FINES AND CHARGES	Revision 0
Date Approved by School Committee:	Signature of Chair: Page 1 of 2

The School Committee recognizes that it may be necessary to charge student fees to fund certain school activities. It also recognizes that some students may be unable to afford these fees. No student will be denied access into any program because of inability to pay these supplementary charges.

### I. Fees, Fines and Charges

A school program may exact a fee, fine or charge (hereinafter 'fee') only upon School Committee approval and subject to applicable statutory authority. Increases or decreases in existing fees require School Committee approval. The Superintendent will provide a written rationale for the fee, for the School Committee's consideration. In addition, the amount of the proposed fee will be set to compensate the School Department for its expenses in providing the program, service or activity and not to raise revenue generally.

Student fees are generally set to:

- Charge students for their participation in voluntary, extra-curricular programs, activities or privileges that benefit the students paying the fee. These fees are paid by choice, in that the student has the option of not engaging in the activity or using the service and thereby avoiding the fee.
- Charge students enrolled in certain courses for the cost of materials used in projects that will become the property of the student.
- Charge students for lost and damaged books, materials, supplies, and equipment.

The School Department may waive a student's fee, under Section II of this policy. However, exempt students are still responsible for charges for lost and damaged books, locks, materials, supplies, and equipment.

All student fees and charges will be posted and made accessible to students and families. The notice will advise students that fees are to be paid and of the penalties for their failure to pay them. Permissible penalties include the denial of participation in extra-curricular class activities.

SCHOOL COMMITTEE POLICY  
NEEDHAM PUBLIC SCHOOLS

FILE

JQ

Policy for: STUDENT FEES, FINES AND CHARGES	Revision 0
Date Approved by School Committee:	Signature of Chair: Page 2 of 2

Any fee or charge due to any school in the District and not paid at the end of the school year will be carried forward to the next school year, as such debts are considered to be debts of the student to the District and not to a particular school. Unpaid fees may be subject to collection activities.

Consistent with M.G.L. Ch. 44 s. 53, all fees paid to the School Department belong to the Town's General Fund, unless expressly authorized by a statute permitting the school department to collect fee in a separate special revenue fund, specifically earmarked for the purpose for which the fee or charge was raised.

## II. Student Fee Waivers

The Needham Public Schools is committed to ensuring that no child is prevented from participation in any activity for financial reasons. All children who are eligible for free or reduced lunch should be exempted from fees.

However, there are some parents/guardians who are reluctant to make such requests for reasons of privacy. If a school staff person suspects that someone is unable to pay a fee, he/she should pursue the matter with the principal. The principal shall use his/her best judgment about the child's ability to pay. When a fee is charged, it is important to make sure that parents/guardians are aware of the possibility of fee waiver if there is a hardship. The District wants all children to participate in any school activity regardless of their ability to pay.

## III. Fee Based Program Administration

Fee-based programs of the Needham Public Schools shall be administered according to Policy #DFG, Income from Fees, Fines and Charges.

### Legal References:

M.G.L. c. 44, § 53A

Emerson College v Boston, 391 Mass. 415 (1984) (proprietary fees)

Silva v City of Attleboro, 454 Mass. 165 (2009) (regulatory fees)

Southview Cooperative Housing Corporate & Others v. Rent Control Board of Cambridge, 396 Mass. 395 (1985)



## Needham School Committee

January 28, 2020

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Agenda Item:     **Action**

### **Vote FY2020-21 School Operating Budget**

Action recommended:

Upon recommendation of the Superintendent, that the Needham School Committee approves the FY2020-21 school operating budget as submitted.



## Needham School Committee

January 28, 2020

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Agenda Item:     **Action**

**Approve 2020 Annual Town Meeting Warrant Article Requests:  
Foster Care Transportation Reimbursement  
Creation of Special Education Reserve Fund**

Action recommended:

Upon recommendation of the Superintendent, that the Needham School Committee approves the 2020 Annual Town Meeting warrant article requests as submitted.



# NEEDHAM PUBLIC SCHOOLS

OFFICE OF FINANCIAL OPERATIONS  
ANNE GULATI, ASSISTANT SUPERINTENDENT  
1330 HIGHLAND AVENUE \* NEEDHAM, MA 02492  
781-455-0400 EXT. 206 \* 781-455-0417 (FAX)

January 11, 2020

To: Needham School Committee  
From: Anne Gulati, Assistant Superintendent for Finance & Operations  
RE: 2020 ATM Warrant Article Request - Foster Care Transportation Reimbursement

## Background:

Under the Every Student Succeeds Act (ESSA), children in foster care are required to remain in their School of Origin as long as it is deemed to be in the best interest of the child. The School of Origin is responsible for funding the cost of transporting the foster care child to and from school. The Executive Office of Health and Human Services (EOHHS), in a partnership with the Department of Children and Families (DCF) and the Department of Elementary and Secondary Education (DESE), has developed a methodology that could reimburse a share of these transportation costs through Title IV-E, a section of the Social Security Act administered by DCF that provides federal reimbursement to states for services provided to children in foster care and other child welfare services. This voluntary program allows Local Education Authorities (LEAs) such as the Needham Public Schools to report their eligible transportation expenditures for children in foster care to the state to be claimed for federal reimbursement. It is estimated that LEAs will receive about 20% of reported costs in reimbursement. Reimbursement for transportation expenditures covered by any other federal funding source is not allowable (e.g., special education, homeless, Title I, etc.), even if that transportation is for a child in foster care, in order to avoid potential duplication of claiming.

The aforementioned agencies (DCF, EOHHS and DESE) have developed a voluntary, supplemental foster care transportation reimbursement program under the authority of M.G.L. Ch. 44 s. 70. Under this statute, a city or town, by vote of its town meeting, town council or city council, and with the approval of the selectmen, town manager or mayor, can authorize the LEA to enter into contracts to seek federal reimbursement for activities being carried out by the municipality, and to provide that payments for services under such contracts be made from the reimbursements or revenues recovered as a result of the services performed, without appropriation of such revenues.

If authorized, Needham could begin submit claims in FY21 for the foster care transportation expenses it has incurred in FY20. (Claims can be submitted for eligible payments incurred in the prior year.) The anticipated claim amount for FY20 is \$14,000, which could yield a reimbursement of \$2,800 (@ 20%) in the first year of implementation.

At present, the payments received under this program would be received by the General Fund, similar to Medicaid program receipts.

## Warrant Article Request:

The purpose of the requested warrant article is to seek approval for the Needham Public Schools to enter into the attached MOU for the purposes of Title IV-E reimbursement.



ALG/alg  
Attachment

**Memorandum of Understanding – Every Student Succeeds Act  
Transportation Claiming Under Title IV-E of the Social Security Act**

*This Memorandum of Understanding (MOU) has been created and entered into on \_\_\_\_\_, 2019 by and between the following parties in relation to the administration of school of origin transportation costs under the Every Student Succeeds Act (ESSA) to maximize Federal Financial Participation from the Federal Government through Title IV-E of the Social Security Act (Title IV-E):*

**Executive Office of Health and Human Services (EOHHS);**

**Department of Elementary and Secondary Education (DESE);**

**Department of Children and Families (DCF); and**

\_\_\_\_\_**(Enter name)**  
**Commonwealth City/Town/Regional School District or Local Education  
Agency**

The Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Elementary and Secondary Education, Department of Children and Families and \_\_\_\_\_ the City or Town or Regional School District of [ ] by and through [ ] (legal name and address of the Local Education Agency, hereinafter, the LEA), hereby agree to the following terms and conditions as they relate to reporting costs and receiving Title IV-E allowable federal reimbursement for said costs as they relate to transporting children eligible under Title IV-E foster care to and from their foster placement and their School of Origin, effective for dates of service on or after April 1, 2019.

**RECITALS**

WHEREAS, DCF is the single state agency designated to submit claims to the Administration of Children and Families (ACF) for the purposes of obtaining Title IV-E cost reimbursement; and

WHEREAS, the LEA desires to participate in the Title IV-E Claiming of Transportation Expenditures for Children in Foster Care (hereinafter, the “Program”) under the terms and conditions set forth in this Memorandum of Understanding (MOU);

WHEREAS, the scope of services and providers payable under the Program is defined by this MOU; and

NOW, THEREFORE, in consideration of the mutual obligations contained in this MOU, the parties agree as follows:

## Section 1. DEFINITIONS

The following terms that appear capitalized throughout this MOU shall have the following meanings, unless the context clearly indicates otherwise.

Administration of Children and Families (ACF) – The agency responsible for the oversight and administration of services pertaining to children, youth, and families nationwide, as established under the authority of Section 6 of the Reorganization Plan No. 1 of 1953.

Certification of Qualified Expenditures or Certification of Qualifying Expenditures – For purposes of this agreement, an expenditure for Transportation that is certified, or attested to, by a contributing public agency or designated authority at a public agency that is eligible for reimbursement under Title IV-E of the Social Security Act.

Department of Children and Families (DCF) – The constituent agency within EOHHS providing services to children 0 through 22 years old who are at risk or have been victims of abuse or neglect, as well as their families, established under M.G.L. c. 18B, § 1.

Department of Elementary and Secondary Education (DESE) – The constituent agency within the Executive Office of Education responsible for the provision of a public education system of a sufficient quality to extend to all children, established under M.G.L. c. 69, § 1.

Every Student Succeeds Act (ESSA) – Federal Law passed in December 2015 governing United States K-12 public education policy (Public Law 114-95).

Executive Office of Health and Human Services (EOHHS) – The executive secretariat of the Commonwealth of Massachusetts established under M.G.L. c. 6A, § 2 that oversees DCF.

Individualized Education Program (IEP) – A written statement, developed and approved in accordance with federal special education law in a form established by the Department of Elementary and Secondary Education, that identifies a student's special education needs and describes the services a school district shall provide to meet those needs.

Local Education Agency (LEA) – See definition for Local Government Entity.

Local Government Entity – Pursuant to MGL c. 44, § 70 and for purposes of this MOU, a city or town, that by vote of its town meeting, town council or city council with the approval of the selectmen, town manager or mayor, authorizes the LEA to enter into this MOU and that is responsible, or assumes responsibility, either directly or indirectly through an agency or other political subdivision, for the non-federal share of the Program expenditures. Local Governmental Entity is also referred to as Local Educational Authority (LEA) in this MOU.

Metropolitan Council for Educational Opportunity (METCO) – a state-funded grant program run by DESE intended to expand educational opportunities, increase diversity, and reduce racial isolation by permitting students in Boston and Springfield to attend public schools in other communities that have agreed to participate, pursuant to M.G.L. c. 76, § 12A.

Reporting Tool – The mechanism, designed and agreed upon by EOHHS, DESE, and DCF, by which the LEA will report on costs associated with the Program and attest to the accuracy of said costs.

School of Origin – The school in which a child is enrolled at the time of placement in foster care. Pursuant to Elementary and Secondary Education Act, § 1111 (g)(1)(E)(i)), DESE and the LEAs must ensure that a child in foster care enrolls or remains in his or her school of origin unless a determination is made that it is not in the child’s best interest.

State Fiscal Year – The 12-month period commencing July 1 and ending June 30 and designated by the calendar year in which the fiscal year ends (e.g., State Fiscal Year 2019 starts on July 1, 2018 and ends June 30, 2019).

Title IV-E – an amendment to the Social Security Act that allows states to claim federal reimbursement for the costs of administering foster, adoptive, and guardianship services based on specific eligibility criteria.

Title IV-E Allowable Transportation Claiming Activities – The process through which an LEA requests payment based on Title IV-E-allowable actual incurred costs related to Administrative Activities. Administrative Activities Claiming is further described in Section 2.3 of this MOU.

Title IV-E Claiming of Transportation Expenditures for Children in Foster Care Program – The program through which Local Government Entities participate in administrative activities claiming of Title IV-E allowable expenditures of transportation for children in foster care.

Title IV-E Eligibility – children in foster care that meet the federal eligibility requirements outlined in the Social Security Act for foster care maintenance payments claimed on their behalf.

Title IV-E Federal Financial Participation (Title IV-E FFP) – The amount of the federal share that may be available based on the Certification of Qualifying Expenditures of an LEA for administrative activities related to the provision of transportation services to IV-E eligible foster care children to their School of Origin provided pursuant to this MOU.

## Section 2. TERMS AND CONDITIONS

1. Subject to (a) the City/Town/Regional School District, hereinafter, Local Education Agency’s (LEA) voluntary compliance, as determined by EOHHS, with all submission and other requirements established by EOHHS, DESE, and DCF, hereto referred to as “the Commonwealth”; (b) all other state approvals; (c) federal approval of all necessary payment and funding methods and payment limits; and (d) the availability of Title IV-E

FFP, the Commonwealth will pay the LEA an amount equal to the final Title IV-E FFP amount received by the Commonwealth for the allowable Certification of Qualifying Expenditures of the LEA for that state fiscal year, less any contingency fees and other administrative costs.

2. The LEA shall submit to the DESE no later than October 1 of each year, a cost report and Certification of Qualifying Expenditures on a form designated by the Commonwealth and completed in accordance with the Commonwealth's instructions and signed by an officer who is an authorized signatory of the unit of government providing the non-federal share of Title IV-E allowable transportation expenditures associated with transporting children to/from his/her School of Origin.
3. Said certification shall provide that the LEA's reported expenditures are allowable costs for children in foster care who are covered under ESSA and exclude the following costs:
  - a. Any Individualized Education Program (IEP) transportation costs incurred for a child who is enrolled in MassHealth where transportation services are required under the IEP;
  - b. Any costs for children and youth considered homeless as defined by the McKinney-Vento Homeless Assistance Act's, 42 USC 11434(a)(2);
  - c. Participate in METCO as set forth in M.G.L. c. 76, § 12A; or
  - d. Any other federally funded form of transportation services.
4. The LEA shall comply with all Title IV-E transportation administrative and billing requirements set forth in this MOU or incorporated by reference and applicable laws, regulations or subregulatory guidance regarding these requirements.
5. The LEA must repay to the Commonwealth any amounts resulting from any overpayment, erroneous reporting, administrative fine, or otherwise, in accordance with this MOU, DESE's rules and regulations, and all other applicable state and federal laws.
6. In the event that a review by the Commonwealth, ACF, or any other state and federal oversight entity reveals that the LEA's claim resulted in a duplicate payment under one or more state or federal programs or that LEA did not follow the requirements in accordance with the terms specified herein or applicable state or federal laws for any fiscal year the Commonwealth retains the right to recover payments from the LEA for that fiscal year(s).
7. At any point during the MOU, if the Commonwealth, in its sole judgment, identifies any deficiency in the LEA's performance under the MOU, the Commonwealth may require the LEA to develop a corrective action plan to correct such deficiency. The corrective action plan must, at a minimum:
  - a. identify each deficiency and its corresponding cause;
  - b. describe corrective measures to be taken to address each deficiency and its cause;
  - c. provide a time frame for completion of each corrective measure;

- d. describe the target outcome or goal of each corrective measure (i.e., how the action taken will be deemed successful);
- e. describe the documentation to be submitted to the Commonwealth as evidence of success with respect to each corrective measure; and
- f. identify the person responsible for each corrective measure, and any other information specified by the Commonwealth.

The LEA shall submit any such corrective action plan to the Commonwealth and shall implement such corrective action plan only as approved or modified by the Commonwealth. Under such corrective action plan, the Commonwealth may require the LEA to (1) alter the manner or method in which the LEA performs any MOU responsibilities, and (2) implement any other action that the Commonwealth may deem appropriate.

The LEA's failure to implement any corrective action plan may, in the sole discretion of the Commonwealth, be considered breach of the MOU, subject to any and all agreement remedies including, but not limited to, termination of the MOU.

- 8. Any costs incurred by the Commonwealth to administer the LEA's participation in the ESSA transportation claiming program, including contingency fees payable to the Commonwealth contractors, if necessary, will be offset against amounts of federal revenue payable to the LEA under an ongoing MOU or withheld in a special payment arrangement in the case of MOU termination.
- 9. The LEA shall immediately disclose to the Commonwealth any non-compliance by the LEA with any provision of this MOU, or any state or federal law or regulation governing this MOU.
- 10. In the event that the Commonwealth receives written notification of a deferral or disallowance of Title IV-E FFP claimed on behalf of the LEA's services through the Certification of Qualifying Expenditures, receives written notification of an audit finding requiring the return of any such Title IV-E FFP, or otherwise reasonably determines that any such Title IV-E FFP will be deferred or disallowed if claimed, the Commonwealth shall so notify the LEA. At any time after the Commonwealth's receipt of such notice or other information, it may require the LEA to remit to the Commonwealth the amount of payment(s) under review, pending final disposition of such review. The Commonwealth shall specify such amount in a written remittance notice to the LEA and, within 30 days of the date of such remittance notice, the LEA shall repay to the Commonwealth an amount equal to the amount specified. In the absence of such a remittance notice, the LEA may, on its own initiative remit such amount to the Commonwealth. In the event the LEA for any reason retains payment amounts subject to deferral, disallowance, or audit findings as described herein, the LEA shall be liable for such amounts plus any interest assessed by the federal government on the Commonwealth. The Commonwealth shall provide to the LEA written notification of the amount of any federal interest assessed on

payment amounts retained by the LEA. In the event that the final disposition of the deferral, disallowance, or audit described herein requires the Commonwealth to return an amount previously paid by the LEA to the Commonwealth under these provisions, no such payment due to the LEA shall constitute a late payment or otherwise obligate the Commonwealth to pay to the LEA any interest on such payment. Any remittance pursuant to the provisions of the paragraph shall be in accordance with all applicable state law.

11. The LEA must maintain records that are accurate and sufficiently detailed to substantiate the legal, financial, and statistical information reported on the Certification of Qualifying Expenditure form. These records must demonstrate the necessity, reasonableness, and relationship of the costs (e.g., personnel, supplies, and services) to the provision of services and must be furnished upon request to the Commonwealth or its designees, or to any other federal and state officials and agencies authorized by law to inspect such information or their designees, including the United States Secretary of Health and Human Services, the Comptroller General of the United States, the Administration for Children and Families, the Governor of Massachusetts, the Massachusetts Secretary of Administration and Finance, the Massachusetts State Auditor, the Massachusetts Department of Elementary and Secondary Education, and the Massachusetts Department of Children and Families. These records include, but are not limited to, all relevant transportation payments, service dates related to transportation payments, and child count. The LEA must maintain documentation supporting the transportation costs: (1) associated with transporting children eligible under Title IV-E in foster care, including their names and dates of services provided; and (2) that the costs are associated with transporting these children to/from their School of Origin; and (3) that the costs are not excluded pursuant to Section 2.3 of this MOU. The LEA is required to maintain cost report work papers for a minimum period of seven years beyond the last quarter that a child's transportation costs are included on a claim or until the completion of any audit, whichever is longer, following the end of each cost reporting period.
12. The LEA and any of their business associates/subcontractors shall comply with the terms, conditions, and obligations relating to data privacy, security, and management of personal and other confidential information applicable to the LEA under this MOU, as well as any other laws, regulations and other legal obligations regarding the privacy and security of such information to which the LEA is subject.
13. The Terms and Conditions set forth in this MOU may be terminated by any party upon written notice to the other at the address set forth below. Notice shall be sent to:

Executive Office of Health and Human Services  
Office of Federal Finance and Revenue  
600 Washington Street, 7<sup>th</sup> Floor  
Boston, MA 02111  
Attn: Michael Berolini, Director

\_\_\_\_\_  
Local Education Agency Name

\_\_\_\_\_  
Local Education Agency Address

\_\_\_\_\_  
Local Education Agency Address

Attn: \_\_\_\_\_  
Local Education Agency Contact

14. The Terms and Conditions may be amended at any time in writing, signed by all parties.
15. The Terms and Conditions shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts.
16. No provision of the Terms and Conditions is or shall be construed as being for the benefit of, or enforceable by, any third party.
17. Rights and obligations, which by their nature should survive or which these Terms and Conditions expressly states will survive, will remain in full force and effect following termination or expiration of this MOU. Notwithstanding the generality of the foregoing, the rights and duties under paragraph 12 survive the termination or expiration of this MOU.

Signed by the respective duly authorized representatives of the parties hereto.



**COMMONWEALTH OF MASSACHUSETTS, EXECUTIVE  
OFFICE OF HEALTH AND HUMAN SERVICES**

By: \_\_\_\_\_  
EOHHS Authorized Signatory

Name: \_\_\_\_\_(Print)

Date: \_\_\_\_\_

By: \_\_\_\_\_  
DESE Authorized Signatory

Name: \_\_\_\_\_(Print)

Date: \_\_\_\_\_

By: \_\_\_\_\_  
DCF Authorized Signatory

Name: \_\_\_\_\_(Print)

Date: \_\_\_\_\_

\_\_\_\_\_(Name)

**Local Education Agency Authorized Signatory**

By: \_\_\_\_\_  
Local Education Agency Authorized Signatory

Date: \_\_\_\_\_

Name: \_\_\_\_\_(Print)

Position: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_



# NEEDHAM PUBLIC SCHOOLS

OFFICE OF FINANCIAL OPERATIONS  
ANNE GULATI, ASSISTANT SUPERINTENDENT  
1330 HIGHLAND AVENUE \* NEEDHAM, MA 02492  
781-455-0400 EXT. 206 \* 781-455-0417 (FAX)

January 14, 2020

To: Needham School Committee  
From: Anne Gulati, Assistant Superintendent for Finance & Operations  
RE: 2020 ATM Warrant Article Request - Special Education Reserve Fund

## Background:

M.G.L. Chapter 40, s. 13 E, as authorized by Section 24 of Chapter 218 of the Acts of 2016, provides for the establishment of a Special Education Stabilization fund. Although special education expenses are normally paid from the school operating budget, these expenses can increase unexpectedly by hundreds of thousands of dollars to meet Individualized Educational Plan requirements or changing student needs. A special education reserve fund would provide a transparent and manageable way to address extraordinary and unanticipated increases in special education, tuition and transportation, that otherwise could not be met by existing operational resources.

Under the law, a school district, by a majority vote of both the school committee and the legislative body, may establish and appropriate (or transfer) money to a reserve fund to be utilized in upcoming fiscal years, to pay, without further appropriation, for unanticipated or unbudgeted costs of special education, out-of-district tuition or transportation. The balance in such reserve fund is limited to two per cent of the annual net school spending of the school district.

Additionally, funds in the reserve fund can only be expended or transferred out after a majority vote of both the School Committee and Selectmen. Once the fund is established, the Department of Elementary and Secondary Education allows the School Committee to include a separate line item within its annual budget request to appropriate monies into the stabilization fund. Alternatively, Town Meeting could take separate action to appropriate funds to the SPED Reserve Fund, by majority vote.

The School Department desires to create such a fund to provide a source of funding for extraordinary, unbudgeted increases in special education costs, including out of district tuitions and transportation. (Smaller, more moderate increases would be paid from school operational resources.) The balance in the fund would be built up gradually over time, via annual appropriations to the fund. The proposed first year contribution to the fund would be made in FY22, as part of the Town's regular budgeting process.

An initial, target fund balance amount of \$750,000 is suggested, with a maximum allowable balance equal to 2% of required net school spending, the statutory amount. (Needham's FY20 required net school spending amount is \$59,699,044, of which 2% equals \$1,193,980.) As a guideline, the School Department proposes that a limit also be imposed on the amount that could be expended within a fiscal year of \$1,000,000, or the available balance, whichever is less.

Warrant Article Request:

The purpose of the requested warrant article is to seek Town Meeting approval for the creation of a special education reserve fund under M.G.L. Ch. 40 s. 13 E.

Attachments:

- M.G.L. Ch. 40, Section 13E.
- DESE Advisory on Special Education Reserve Fund

ALG/alg  
Attachment

<b>Part I</b>	ADMINISTRATION OF THE GOVERNMENT
<b>Title VII</b>	CITIES, TOWNS AND DISTRICTS
<b>Chapter 40</b>	POWERS AND DUTIES OF CITIES AND TOWNS
<b>Section 13E</b>	SCHOOL DISTRICT RESERVE FUNDS TO PAY FOR UNANTICIPATED OR UNBUDGETED COSTS FOR SPECIAL EDUCATION, OUT-OF-DISTRICT TUITION OR TRANSPORTATION

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Section 13E. Any school district which accepts this section, by a majority vote of the school committee and a majority vote of the legislative body or, in the case of a regional school district by a majority vote of the legislative bodies in a majority of the member communities of the district, may establish and appropriate or transfer money to a reserve fund to be utilized in the upcoming fiscal years, to pay, without further appropriation, for unanticipated or unbudgeted costs of special education, out-of-district tuition or transportation. The balance in such reserve fund shall not exceed 2 per cent of the annual net school spending of the school district.

Funds shall only be distributed from the reserve funds after a majority vote of the school committee and a majority vote of the board of selectman or city council, or, in the case of a regional school district by a majority vote of the board of selectmen or city council in a majority of the member communities of the district.

The district treasurer may invest the monies in the manner authorized in section 54 of chapter 44 and any interest earned thereon shall be credited to and become part of the fund.



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[Chapter 74 Nonresident Tuition \(/ccte/cvte/admissions/\)](/ccte/cvte/admissions/)

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## Advisory on Special Education Stabilization Fund

Section 24 of Chapter 218 of the Acts of 2016 provides for the establishment of a Special Education Stabilization fund. The law enables municipal and regional districts to establish a reserve fund that can be used in future years for unanticipated or unbudgeted costs of special education, out of district tuition or transportation.

### *Establishing, funding and making payments from the stabilization fund*

In order to establish the fund the law requires a majority vote by both the School Committee and local legislative body. In the case of regional school districts the local legislative body means a majority vote of the legislative bodies in a majority of the member communities of the district. Once the fund is established, the school committee may include a separate line item in their annual budget request to appropriate monies into the stabilization fund. For regions, the amount to be appropriated to the stabilization fund is included in each member municipality's assessment. The balance in the reserve fund cannot exceed two percent of the annual net school spending of the school district.

Funds in the reserve fund can only be expended or transferred out after a majority vote of both the School Committee and Selectmen or City Council or in the case of regional school districts, a majority vote of the boards of selectmen or city councils of a majority of the member communities of the district.

Other areas districts may choose to consider when establishing the fund are:

- Maximum balance in the fund
- A limit on the amount that can be expended in a fiscal year

### *Reporting of activity in the stabilization fund*

Annual appropriations into a stabilization fund should not be reported as an expenditure on the End of Year Financial Report. There is no reporting requirement for increasing the balance in the fund.

Expenditures from the fund should be reported as an additional appropriation of the school committee in the appropriate function codes on Schedules 1 and 3 of the End of Year Financial Report. Expenditures are made directly from the stabilization fund so a transfer into the general fund is not required.

Questions about this advisory should be directed to Jay Sullivan, associate commissioner, district & school finance, at 781-338-6594 or [✉](mailto:jsullivan@doe.mass.edu) [jsullivan@doe.mass.edu](mailto:jsullivan@doe.mass.edu) (<mailto:jsullivan@doe.mass.edu>).

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### Contact Us

Massachusetts Department of Elementary and Secondary Education  
75 Pleasant Street, Malden, MA 02148-4906

Voice: (781) 338-3000

TTY: (800) 439-2370

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## Needham School Committee

January 28, 2020

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Agenda Item:     **Action**

**Approve FY21 Revolving Fund Fees**

Action recommended:

Upon recommendation of the Superintendent, that the Needham School Committee approves the FY21 revolving fund fees as submitted.

## ***NEEDHAM SCHOOL COMMITTEE***

**Agenda Item #:** \_\_\_\_\_

**Date:** January 23, 2020

**Item Title:** **FY 2020/21 Revolving Funds**

**Item Description:** This agenda item is to review the budgets and fees of the following revolving fund programs in FY 2020/21: Community Education, Preschool, Athletics, and Transportation.

Additional revolving fund budgets and fees will be sent to the School Committee for review and approval over the next several months.

Comparable fees from other communities can be found at:  
[www.superednet.com](http://www.superednet.com).

**Recommendation/Options:** That the School Committee approve the attached fees for FY 2020/21

**Rationale:**

**Implementation Implications:**

**Supporting Data:** Summary of FY 2020/21 Revolving Fund Fees and Program Changes.

School Committee (circle one)

Action          Information          Discussion          Consent Calendar

Respectfully Submitted,

*Anne Gulati*

Anne Gulati  
Assistant Superintendent for Finance and Operations



# Attachment A

## FY 2020/21 Revolving Fund Summary

Revolving Fund	Fee FY20	Fee FY21	\$ Increase/(Decrease)	Description of Change/ Statutory Authority
Pupil Transportation	\$415/ Rider @ 2.0 Miles, Increasing to \$465 after Registration Deadline \$840 Family Cap \$376,817 Operating Subsidy	\$415/ Rider @ 2.0 Miles, Increasing to \$465 after Registration Deadline \$840 Family Cap \$376,817 Operating Subsidy	\$0/ Rider  \$0/ Family \$0/ Subsidy	No Change to User Fee or Program Subsidy. MGL Ch. 44, s53E 1/2.
Athletics	<u>High School Sport Fees:</u> \$300/ Interscholastic Athlete Per Sport \$235/ Club Athlete Per Sport \$1140 Family Cap + User Fee Venue Surcharges: \$330/ Hockey & Ski \$55/ Swim & Dive \$175/ JV2 Hockey \$190/ Sailing, Squash, Fencing \$80/ Bowling & Water Polo \$250/ Snowboarding  Gate Fees: \$7 Adults \$5 Students/Seniors * Gate fees waived for fee- paying athletes.  <u>Middle School Sport Fees:</u>	<u>High School Sport Fees:</u> \$300/ Interscholastic Athlete Per Sport \$235/ Club Athlete Per Sport \$1140 Family Cap + User Fee Venue Surcharges: \$330/ Hockey & Ski \$55/ Swim & Dive \$175/ JV2 Hockey \$190/ Sailing, Squash, Fencing \$80/ Bowling & Water Polo \$250/ Snowboarding  Gate Fees: \$7 Adults \$5 Students/Seniors * Gate fees waived for fee- paying athletes.  <u>Middle School Sport Fees:</u>	\$0/ Athlete  \$0/ Athlete \$0/ Athlete  \$0/ Athlete \$0/ Athlete \$0/ Athlete \$0/ Athlete  \$0/ Ticket \$0/ Ticket	No Change to User Fee or Program Subsidy. Expansion of Unified Sports to Pollard Middle School. MGL Ch 71, s47.

	\$235/ Cross Country, Field Hockey, Track, Ultimate Frisbee + User Fee Venue Surcharges: \$25/ Co-Ed Volleyball, Basketball, Softball, Boys Volleyball, Wrestling \$175/ JV2 Hockey	\$235/ Cross Country, Field Hockey, Track, Ultimate Frisbee + User Fee Venue Surcharges: \$25/ Co-Ed Volleyball, Basketball, Softball, Boys Volleyball, Wrestling \$175/ JV2 Hockey	\$0/ Athlete  \$0/ Athlete  \$0/ Athlete	
Integrated Preschool	\$4,620/ 4-Day AM & PM @ 2.5 Hrs \$3,465 / 3-Day AM & PM @ 2.5 Hrs \$11,435/ 4-Day Full-Day \$8,580/ 3-Day Full-Day  N/A  \$250 4 Two-Week Summer \$190 3 Two-Week Summer	\$4,620/ 4-Day AM & PM @ 2.5 Hrs \$3,465 / 3-Day AM & PM @ 2.5 Hrs \$11,435/ 4-Day Full-Day \$8,580/ 3-Day Full-Day  N/A  \$250 4 Two-Week Summer \$190 3 Two-Week Summer	\$0  \$0  \$0 \$0  \$0 \$0	No change to program or fee structure. MGL Ch 71, s47.
Early Childcare Program	\$110/Day Infants \$100/Day Toddlers	\$110/Day Infants \$100/Day Toddlers	\$0 \$0	No change to program or fee structure. MGL Ch 71, s26A
KASE	Program Disbands June 30, 2019 to Allow Implementation of Full-Day Kindergarten	N/A	N/A	Program Disbanded in 2018/19, to Allow Implementation of Full-Day Kindergarten. MGL Ch 71, s47.
Tutoring	\$10 Tutor Registration Fee \$50/Hour Tutoring Rate Paid Directly to Tutor	\$10 Tutor Registration Fee \$50/Hour Tutoring Rate Paid Directly to Tutor	\$0 \$0	No change to program or fee structure. MGL Ch 71, s47.

NCE Elementary	Fees Range from \$75-\$205 Across 112 Planned Course Offerings.	Fees Range from \$80-\$215 Across 110 Planned Course Offerings.	Varies with Specific Course	No change to program or fee structure. MGL Ch 71, s47.
Summer School	Fees Range from \$89-\$600 Across 140 Planned Course Offerings	Fees Range from \$164-\$665 Across 133 Planned Course Offerings	Varies with Specific Course	No change to program or fee structure. MGL Ch 71, s71E.
Summer Sports Clinics	Fees Range from \$75-\$200	Fees Range from \$75-\$199	Varies with Specific Course	No change to program or fees structure. MGL Ch 71, s71E.
NCE Middle	Fees Range from \$22-\$365 Across 50 Planned Course Offerings, plus ASAP daily enrichment program.	Fees Range from \$39-\$280 Across 53 Planned Course Offerings.	Varies with Specific Course	Shift in focus toward after-school enrichment programs. No change to fee structure. MGL Ch 71, s47.
Adult Education	Fees Range from \$15-\$665 Across 250 Planned Course Offerings	Fees Range from \$15-\$665 Across 270 Planned Course Offerings	Varies with Specific Course	No change to fee or program structure. MGL Ch 71, s71E.



## Needham School Committee

January 28, 2020

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Agenda Item:     **Action**

### **Approve Contract Extension for METCO Transportation**

Action recommended:

Upon recommendation of the Superintendent, that the Needham School Committee approves the contract extension for METCO school bus transportation services to Local Motion through June 30, 2022 as submitted.

## ***NEEDHAM SCHOOL COMMITTEE***

**Agenda Item #:** \_\_\_\_\_

**Date:** January 23, 2020

**Item Title:** **METCO Contract Extension: 2020/21 and 2021/22**

**Item Description:** In March, 2017, an Invitation for Bids (IFB) was issued for METCO school bus transportation services for the period beginning July 1, 2017 extending to June 30, 2020, with possible yearly extensions to June 30, 2022.

One bidder responded: Local Motion, the incumbent vendor. The proposed two companies submitted bids: Local Motion, Inc. The three-year contract for FY18-20 totaled \$1,376,580, which represented a 16.8% cumulative increase over the current contract amount, or an average of 5.3% per year. The entire 16.8% increase occurred in Year 1, followed by annual increases of 0% in Years 2 and 3. The optional extension years (FY21 and FY22) represented increases of 4.1% and 0%, respectively.

M.G.L. Chapter 30B allows the Committee to vote to extend this contract for up to two additional years, through June 30, 2022, provided that a reasonable investigation of the costs and benefits is completed and it is determined in writing that exercising the extension option is more advantageous than alternative means of procuring these services. Based on the attached recent survey of other METCO towns (see Attachment B), it was determined that Needham's rates for FY 20/21 and FY21/22 are comparatively low and that it would continue to be advantageous for Needham to extend the current contract through June 30, 2022, rather than to re-bid these services.

**Recommendation:** That the Needham School Committee vote to extend the contract for METCO school bus transportation services through June 30, 2022, at the attached bid prices. The contracts to execute will follow in the signature folder of an upcoming meeting.

**Supporting Data:** Attachments A & B

Respectfully Submitted,

*Anne Gulati*

Anne Gulati  
Assistant Superintendent for Finance & Operations

# Attachment A

## Local Motion

	Daily Rate	Annual % Inc	Cum % Inc	# Buses	Days	\$ Cost
<b><u>Regular Bus</u></b>						
FY17	386.00			4	180	\$277,920
FY18	468.00	21.2%	21.2%	4	180	\$336,960
FY19	468.00	0.0%	21.2%	4	180	\$336,960
FY20	468.00	0.0%	21.2%	4	180	<u>\$336,960</u>
<b>Subtotal FY18-20</b>						<b>\$1,010,880</b>
FY21	480.00	2.6%	24.4%	4	180	\$345,600
FY22	480.00	0.0%	24.4%	4	180	\$345,600
<b>Subtotal FY21-22</b>						<b>\$1,702,080</b>
<b><u>Monitor Pick Up/ Drop Off</u></b>					<b><u>Days</u></b>	
FY17	60.00			1	180	\$10,800
FY18	100.00	66.7%	66.7%	1	180	\$18,000
FY19	100.00	0.0%	66.7%	1	180	\$18,000
FY20	100.00	0.0%	66.7%	1	180	<u>\$18,000</u>
<b>Subtotal FY13-15</b>						<b>\$54,000</b>
FY21	120.00	20.0%	100.0%	1	180	\$21,600
FY22	120.00	0.0%	100.0%	1	180	\$21,600
<b>Subtotal FY21-22</b>						<b>\$97,200</b>
<b><u>Late Bus</u></b>					<b><u>Days</u></b>	
FY17	200.00		-	3	144	\$86,400
FY18	200.00	0.0%	0.0%	3	144	\$86,400
FY19	200.00	0.0%	0.0%	3	144	\$86,400
FY20	200.00	0.0%	0.0%	3	144	<u>\$86,400</u>
<b>Subtotal FY18-20</b>						<b>\$259,200</b>
FY21	212.00	6.0%	6.0%	3	144	\$91,584
FY22	212.00	0.0%	6.0%	3	144	\$91,584
<b>Subtotal FY21-22</b>						<b>\$442,368</b>
<b><u>Summer Buses</u></b>					<b><u>Days</u></b>	
FY17	320.00			2	25	\$16,000
FY18	310.00	-3.1%	-3.1%	2	25	\$15,500
FY19	310.00	0.0%	-3.1%	2	25	\$15,500
FY20	310.00	0.0%	-3.1%	2	25	<u>\$15,500</u>
<b>Subtotal FY18-20</b>						<b>\$46,500</b>
FY21	330.00	6.5%	3.1%	2	25	\$16,500
FY22	330.00	0.0%	3.1%	2	25	\$16,500
<b>Subtotal FY21-22</b>						<b>\$79,500</b>
<b><u>Extracurricular Buses</u></b>						
<b><u>Mileage Cost (Cost Per Mile)</u></b>					<b><u>Miles</u></b>	
FY17	3.20			1	250	\$800

## Attachment A

FY18	4.00	25.0%	25.0%	1	250	\$1,000
FY19	4.00	0.0%	25.0%	1	250	\$1,000
FY20	4.00	0.0%	25.0%	1	250	<u>\$1,000</u>
<b>Subtotal FY18-20</b>						<b>\$3,000</b>

FY21	4.50	12.5%	40.6%	1	250	\$1,125
FY22	4.50	0.0%	40.6%	1	250	\$1,125
<b>Subtotal FY21-22</b>						<b>\$5,250</b>

**Wait Time Cost (Cost Per Hour)**

					<b>Hours</b>	
FY17	42.00			1	20	\$840
FY18	50.00	19.0%	19.0%	1	20	\$1,000
FY19	50.00	0.0%	19.0%	1	20	\$1,000
FY20	50.00	0.0%	19.0%	1	20	<u>\$1,000</u>
<b>Subtotal FY18-20</b>						<b>\$3,000</b>
FY21	56.00	12.0%	33.3%	1	20	\$1,120
FY22	56.00	0.0%	33.3%	1	20	\$1,120
<b>Subtotal FY21-22</b>						<b>\$5,240</b>

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**Summary Totals**

FY17	\$392,760			<b>% Inc</b>	<b>\$ Inc</b>	<b>Cumulative %</b>
<b>FY18-20</b>						
FY18	\$458,860	16.8%	16.8%	16.8%	\$66,100	16.8%
FY19	\$458,860	0.0%	16.8%	0.0%	\$0	16.8%
FY20	<u>\$458,860</u>	0.0%	16.8%	<u>0.0%</u>	<u>\$0</u>	16.8%
	<b>\$1,376,580</b>					
<b>FY21-22</b>						
FY21	\$477,529	4.1%	21.6%	4.1%	\$18,669	21.6%
FY22	<u>\$477,529</u>	0.0%	21.6%	0.0%	\$0	21.6%
	<b>\$2,331,638</b>					

## Attachment B

### Comparative Per Diem Rates, METCO Pupil Transportation

<b>Town</b>	<b>FY21</b>	<b>FY22</b>
Westwood	\$ 470.00	\$ 475.00
Needham	\$ 480.00	\$ 480.00
Wellesley	\$ 668.00	\$ 680.00
Newton	\$ 690.00	\$ 710.00
Weston	In-House	In-House
Natick	No Response	
Braintree	Not Set	
Wayland	Not Set	





## Needham School Committee

January 28, 2020

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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:

Michael Greis, Chair  
Andrea Longo Carter, Vice-Chair  
Connie Barr  
Heidi Black  
Susan Neckes  
Aaron Pressman  
Matthew Spengler  
Aidan Michelow, Student Representative member of School Committee



## Needham School Committee

January 28, 2020

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Agenda Item:     **Information Item**

- Disposal of Surplus Items

## ***NEEDHAM SCHOOL COMMITTEE***

**Agenda Item #:** \_\_\_\_\_

**Date:** January 28, 2020

**Item Title:** **Disposal of Surplus: Information Technology Center**

**Item Description:** This request is to dispose of the following equipment which are either obsolete, non-functioning, or the repair cost exceeds the value of the equipment. The method of disposal will be a public auction held on February 20, 2020 at the Broadmeadow School and offer to the other Town Departments.

**From Information Technology Center:**

- 125 Obsolete Computers
- 30 Obsolete Monitors
- 7 Obsolete Smartboards
- 38 Various Pieces of Obsolete Network Equipment -
- 30 Obsolete Projectors
- 9 Obsolete Printers
- 75 Obsolete VCRs
- 450 Old Logitech Keyboard Cases
- Assorted AV Equipment
- Assorted Computer Equipment
- Assorted Printer Consumables
- Assorted SmartBoard Accessories

**Issues:** Chapter 30B Section 16 of the Massachusetts General Laws permits a governmental body to dispose of a tangible supply no longer useful to the governmental body, but having a resale or salvage value, at less than the fair market value to a charitable organization that has received a tax exemption from the United States by reason of its charitable nature. Chapter 30B Section 15 and Needham School Policy #DN, further authorize the disposal of surplus school property, other than real estate, having a net value of less than \$10,000 through the exercise of sound business practices by the Procurement Officer.

**Recommendation/Options:** That the Needham School Committee approve of the aforementioned disposal via auction on February 20, 2020 at the Broadmeadow School. If items are not purchased they will be disposed of, in accordance with MGL 30B Sections 15.

**Rationale:**

**Implementation Implications:**

**Supporting Data:** None.

**School Committee (circle one)**

Action	Information	Discussion	Consent Calendar
Central Administrator	Town Counsel	Sub-Committee:	_____

Will report back to School Committee (date): \_\_\_\_\_

Respectfully Submitted,

*Anne Gulati*

Director of Financial Operations